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BLUE JAY

September 1981

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Cover: *Prickly Pear Cactus.* *Gary W. Sei*

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A NEW PARK FOR CANADA

ARY W. SEIB, 3625 Grassick Avenue, Regina, Saskatchewan. S4S 0Z3

An historic event took place in Regina n 19 June 1981 with the signing of an greement to establish a Grasslands ational Park in southwestern Saskatchewan. The signing follows 16 years of iscussion, public hearings and egotiations since the idea for the park as put forth by the Saskatchewan atural History Society.

The agreement to establish the park as signed by Senator Hazen Argue on ehalf of the Honourable John Roberts, inister Responsible for Parks Canada, nd the Honourable Reg Gross, Minister r Saskatchewan Tourism and enewable Resources.

To create Canada's 29th national ark, Saskatchewan will transfer to arks Canada a maximum of 350 quare miles in two blocks, an East lock in the Killdeer area, and a West lock in the Val Marie area. The two ocks will be connected by a road.

There will be no expropriation of land. Parks Canada may only acquire land through the voluntary sale process, and the federal government will pay relocation costs to any vendor who has sold his land to Parks Canada. Canada will pay 100% of the costs of acquiring leasehold interests and relocation costs. It will pay 50% of the cost of acquiring freehold lands and existing mineral rights, and Saskatchewan will pay the other 50%, transferring their freehold interests to Canada at no cost.

Under a separate agreement, Saskatchewan has five years, subject to approval from Canadian and Saskatchewan environmental authorities, to conduct and complete an oil and gas exploration program. At the end of this time the province must identify for the park a minimum of 100 square miles, with at least 36 square miles in each of two core areas. Where oil and/or gas reserves are discovered, these lands will

signing. Left to right: Ralph Goodale, Sen. Hazen Argue, Reg Gross, John Kowalchuk.
Gary W. Seib

Killdeer Badlands. *Gary W. Seib*

Killdeer area. *Frank Bellamy*

Prairie dog town in the Frenchman River valley. *Gary W. Seib.*

Prairie Dog Butte, overlooking Frenchman River valley. *Gary W. Seib*

Clay hilltop, Killdeer Badlands, Grasslands Park. Gary W. Sei

not be immediately available to Parks Canada. Cost of the oil and gas exploration programs will be shared on a 50/50 basis up to a maximum of approximately 10.6 million 1981 dollars. Saskatchewan will reimburse the federal government from net profits for its financial contribution if oil and gas are produced. Once Saskatchewan has identified lands for the park, neither the province nor the government of Canada will explore or exploit any minerals, oil or gas which may be there.

Existing water use agreements and international commitments will be honored. Where landowners' and lessees' access roads are cut off by the park boundaries, Canada will provide alternative access routes to the nearest public road.

Both the governments of Canada and Saskatchewan have agreed to form a federal/provincial consultative committee to make decisions on the development and maintenance of the park, including grazing administration, fire protection, road maintenance and other areas of management. Saskatchewan agreed to manage the proposed park areas to maintain their existin natural state prior to transfer of the land to Canada.

The establishment of the Grasslan National Park sets aside the fir representative portion in North Americ of the original short-grass prairie. Th park will preserve the area so th present and future generations can e perience its grandeur, beauty an solitude.

Naturalists worked long and hard bring the park into being, but must n now rest on their accomplishmen Initially the park will be small, only 1 square miles, and that is at least fi years away. It will take more years grow to its 350 square mile size, a during that time we must be involved the master planning process to ensu that the park fulfills its potential preservation of a unique area.

We congratulate the governments Canada and Saskatchewan on reachi the agreement for the park, and w them that we will be following their a tions with renewed interest in the co ing years.

THE MEEWASIN VALLEY AUTHORITY'S PROGRAMS FOR 1981-1986

ELLEN GOULD, Meewasin Valley Authority, 200 - 701 Broadway Avenue,
Saskatoon, Saskatchewan. S7N 1B3

Water has a special significance for eople living in the dry climate of the Saskatchewan Plains. The Temperance Colonists who originally founded Saskatoon were grateful to reach the helter of the South Saskatchewan River fter their difficult trek across the windwept prairie. The South Saskathewan River valley is no less important or human settlement today. Residents f Saskatoon have the rare privilege of ving in an urban setting where natural egetation extends right into the centre f the city. However, the demands on e river and its banks have intensified ith the expansion of Saskatoon. onflicts between uses are becoming ore evident.

The Meewasin Valley Authority MVA) was established in September, 979 to help its four participating parties - the City of Saskatoon, the RM of orman Park, the Provincial Government, and the University of Saskathewan — protect the river and river lley and resolve river-related land use nflicts in the municipalities of skatoon and Corman Park. The MVA s also created to initiate projects ich would promote the optimum use the river and its valley as natural sources. In some areas, these procts will make the river valley more cessible to a range of recreational ers; in other areas, where the land is gile or is an important wildlife habitat, e projects will prohibit the kinds of acities which would damage these senive lands.

The MVA's Master Conceptual Plan sets out key principles for the projects the MVA initiates. To quote from the plan:

> "The objective is *balance*. The umbrella idea, the broad concept, is *health* (defined by the World Health Organisation as a "state of complete physical, mental, and social well-being, and not merely the absence of infirmity"). If the continuing physical health of the river and all its connected parts — creek, coulee, ravine, slough, aquifer, land and air, the natural system as a whole — is related, directly and indirectly, to individual health and social health, the supporting concept must be one of *fit*, the fit of man with this natural system. The theme is *linkage*: the physical linkage of the city and rural areas to each other and to the river and the natural system, the social linkage of people to people; the linkage of time — past, present and future."

Balance, health, fit, linkage — four principles which together suggest a vision of how the river valley should evolve. They hold out the promise that the process of urbanisation need not represent the threat to the environment usually associated with the growth of cities.

The principles of the Master Conceptual Plan are made concrete in the MVA's development plans. In drawing up its first development plan, the MVA has concentrated on establishing policies and planning projects for four programs. These are: the *Waterfront Program*, the *Heritage Resources Program*, the *Land Resources Program*,

The MVA will identify hazard lands in the valley such as this slumping bank.

and the *River Resources Program*. All of the MVA's projects over the next five years will contribute to the goals of these four programs.

Under its *Waterfront Program*, the MVA will concentrate on the development of parks for recreational purposes and on enhancing the scenic features of parts of the river bank. The project which will probably have the highest visibility will be the MVA's involvement in the development of the South Downtown Concept. The South Downtown Concept provides for the urban development of the southern end of Saskatoon's downtown in a way that will draw the full benefit from the scenic and recreational potential of the waterfront.

At the same time, the MVA will be participating with other agencies in the assembly of land for, and the development of, waterfront parks. An illustration on how the MVA will go about park development in conformity with the principles of health, fit, balance, and

linkage is represented in the w
Meewasin Park will be develope
Meewasin Park is a 250-acre park e
tending from the site of the propos
42nd Street Bridge north to the city lim
along the west bank of the river. T
plans for the Park are designed
promote the health of the natural are
along the river bank and provide for t
kinds of human activities which will
conflict with the preservation of the e
isting natural areas within the Pa
where in addition to the native flora
considerable wildlife populati
flourishes.

One aspect of Meewasin Park
contribute to another of the MVA's go
— that of developing a link with
past. Under the MVA's *Herita*
Resources Program, archaeologi
and historic sites in the Park will
developed along with interpret
programs for these sites.

The *Heritage Resources Program*
also involve the MVA in the restora
of Riel House, the oldest structure

standing in Saskatoon, and in an oral history project, which has already begun to record the personal recollections of early settlers of the Meewasin Valley. An interesting theme that has begun to emerge from these stories is how the species of plants and animals living in the Meewasin Valley have changed over time. Some of the people being interviewed attribute these changes to the pollution of the river which accompanied the growth of the city. Another theme emerging from these oral histories is the plight of immigrants, uprooted from their native ands, trying to understand the new sights and sounds of the prairie environment. For example, Alan Wright, whose family settled in Corman Park, related the following experience:

> . . . something that got us was the bush partridge . . . For years, we never knew what it was. We never saw it, but we'd hear it. Thump, thump, thump, thump, rrrrrrrrr. . . . We hadn't a clue as to what it was, so we christened it the "ghost engine." It would start up, and we'd look up and down the river. It must have been 6 or 7 years before one day I finally saw one, beating its wings, so I found out what it actually was. We never had anyone to tell us.

Under the *Land Resources Program* the MVA will develop policies, guidelines, and projects which will be aimed at preserving environmentally significant areas of the Meewasin Valley. "Environmentally significant" in this context means an area worth preserving for its scenic qualities and/or its natural vegetation, wildlife habitat or land forms. In such areas, the goal of arriving at a balance between nature and people is especially important. The Beaver Creek Nature Park located along the east side of the river south of Saskatoon is an example of the kind of areas the *Land Resources Program* is intended to protect. The MVA is working with other agencies to eliminate the causes of the environmental damage evident in the park. A plan is being drawn up to suggest ways to restore an ecological balance, and the kinds of human activities appropriate to a conservation area.

Recognising the importance of the health of the river to the ecology of the river valley, the MVA has created a fourth program, *The River Resources Program*. This Program will deal specifically with river issues such as

Under its Land Resources Program, the MVA will seek to preserve important natural features of the valley.

The River Task Force is helping the MVA explore the recreational potential of the South Saskatchewan River.

water pollution, land filling and erosion, and the quantity of water needed for the many uses to which the river is put. In order to draw on the expertise of those already working on these issues, the MVA has established a River Task Force which will help to establish policies and guidelines related to river use.

All four of the MVA's programs will have both an educational component and ways for people to become involved. This two-way flow of information will be accomplished in a variety of ways.

The education component will take the form of environmental awareness projects carried out in cooperation with the schools, the gathering and distribution of information materials on the river and its valley, and the opening of an interpretation centre. The MVA's interpretation centre will include displays on both the natural and cultural history of the Meewasin Valley. There will also be specific projects designed to promote an awareness of environmental concerns, such as the yearly MVA Clean-Up Campaign.

The public's involvement in the MVA's programs is a necessary part of their implementation. The very existenc of the MVA reflects a strong interest o the part of the local community in th health of the river valley and the MV has instituted ways for people to offe their advice and suggestions. Th creation of opportunities for people t get involved is a constant of every MV project. These opportunities take th form of open houses, public meeting and informal meetings which can b held at the request of interested individuals. In addition, four communit advisory committees have been established to advise the MVA on its fou programs. The committees are made u of individuals from the community an of representatives of a number organisations; e.g. the Natural Histo Society will name a representative to th Land Resources Advisory Committe The Authority considers these committees to be essential to the success the MVA's programs.

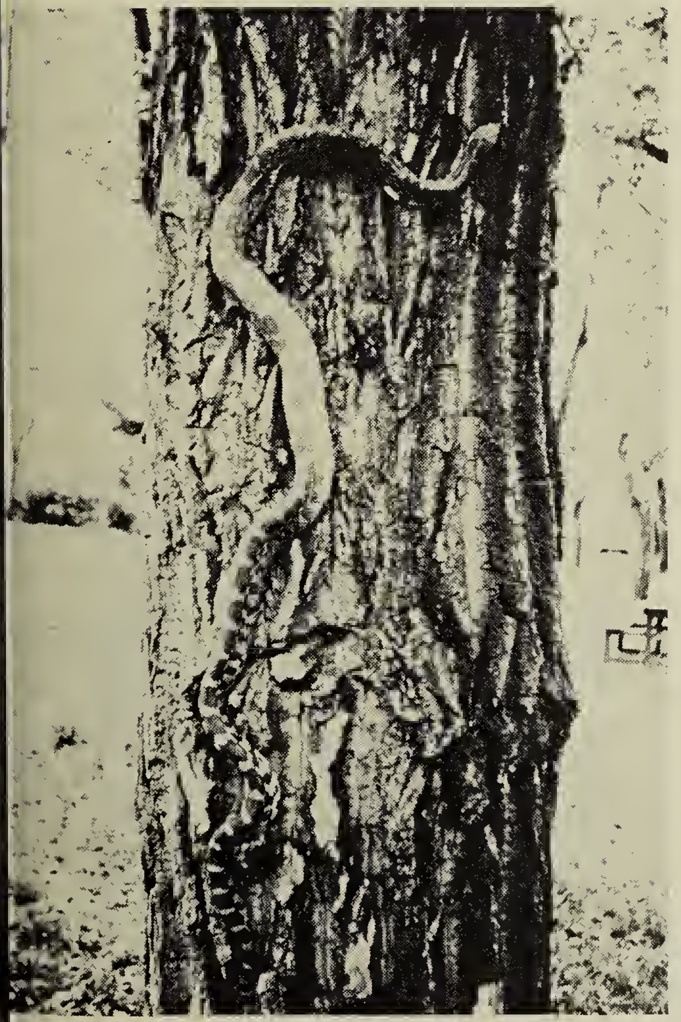
It is no accident that so much of th natural vegetation along the river bar has been preserved. It took foresig and planning to preserve these areas the face of urbanisation. With the inter sifying pressures resulting from rap urban growth, even more foresight ar planning will be required in the futur

TREE CLIMBING BULLSNAKES

ROBERT E. BULLOCK, Department of Biological Sciences, University of Lethbridge, Lethbridge, Alberta. T1K 3M4

On 18 May, 1979, I observed and photographed two Bullsnakes (Gopher Snake) (*Pituophis melanoleucus sayi*) climbing a large Plains Cottonwood (*Populus deltoides*) in Dinosaur Provincial Park, Alberta. Both snakes were elatively large adults measuring approximately 1.3 m in length. The tree had a large, single vertical trunk (48 cm n diameter) with two large lateral branches coming off from the main trunk some 3.5 m from the ground.

Both snakes climbed by going straight up one side of the tree. Vertical ocomotion was accomplished by lateral undulatory movements utilizing the broad, scaly ridges of the deeply furrowed bark as contact points. During the climbing process the head and anterior trunk of each snake remained lifted from the tree, sliding back and forth over the bark in search of appropriate contact points (Fig. 1). The climbing process was relatively slow, but effective.



gure 1. Bullsnake climbing cottonwood.

The first snake to climb the tree reached the dorsal surface of the base of one of the large lateral branches and stopped. Approximately five minutes later the second snake arrived at the base of the tree and climbed to the same point as the first snake, following essentially the same path. The two snakes remained in proximity on the base of the branch, often somewhat intertwined (Fig. 2), for approximately one hour before descending to the ground.

Inasmuch as mating of the Bullsnake occurs at this time of year,[1] [2] it is possible that the first snake to climb the tree was a female, and that the second snake was a male following the scent of the female. Thus, mating behavior might have been involved in this tree climbing observation.

Both Stebbins and Klauber reported that snakes in this genus are good climbers and have been observed at considerable heights in trees searching for the eggs and young of birds, but did not describe the mode of locomotion utilized or the growth forms of the tree trunks climbed.[3] [4] Therefore, this observation is of importance as it established a method of locomotion used by Bullsnakes to climb trees, a specific type of tree that can be climbed, and a possible reason for climbing trees in addition to seeking food. Also, to my

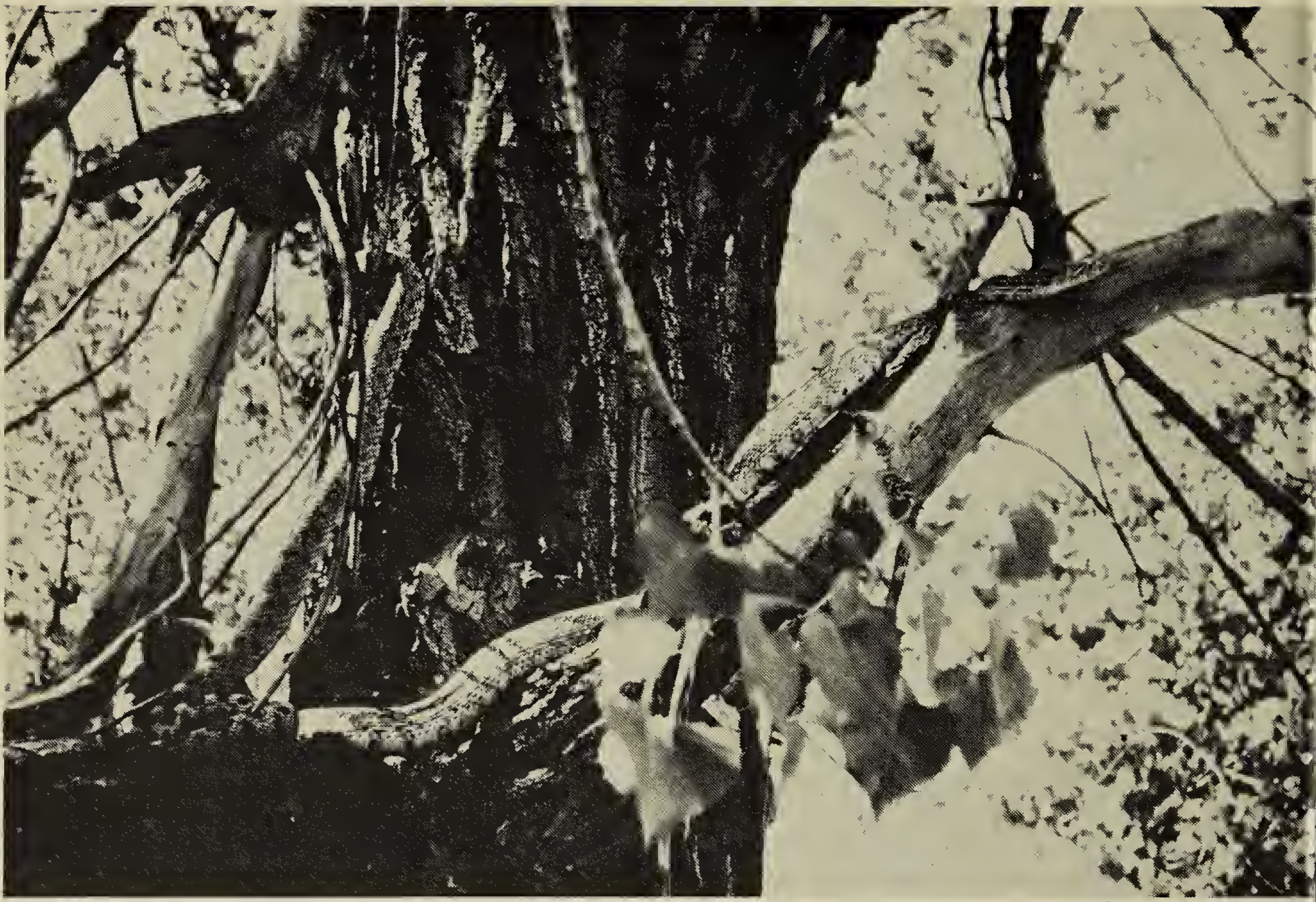


Figure 2. Two Bullsnakes in cottonwood.

knowledge it is the first report of Bullsnakes climbing trees in this area.

[1]FITCH, H. S. 1970. Reproductive cycles in lizards and snakes. Museum of Natural History, the University of Kansas Press, Lawrence, Kansas, Misc. Pub. No. 52. 247 pp.

[2]PENDLEBURY, G. B. 1972. The Bullsnake a misunderstood friend. Dinny's Digest (Calgary Zoological Society, Calgary) 2(1):16-19.

[3]STEBBINS, R. C. 1954. Amphibians anc reptiles of western North America McGraw Hill Co., Toronto. 528 pp.

[4]KLAUBER, L. M. 1947. Classification anc ranges of the Gopher Snakes of the Genus *Pituophis* in the western Unitec States. Bulletin of the Zoological Society of San Diego, San Diego, California No. 22. 81 pp.

Dinosaur Provincial Park, Alberta. *Wayne Lync*

SASKATCHEWAN GHOST MOTHS

RONALD R. HOOPER, P.O. Box 205, Fort Qu'Appelle, Saskatchewan. S0B 1S0

Ghost Moths (of the family Hepialidae) are so named because the male of a common European species *Hepialis humuli*) is a ghostly white and s known as the Ghost Swift. These moths are recognized by the fact that hey have antennae no longer than the width of the base of the forewings. They have hind wings that are almost equal in ength to the forewings. The females fly back and forth in a semi-circle (like a pendulum) over the area where they lay heir eggs. The larvae feed underground n the roots of plants and bore upwards nto the stems. All the feeding is done in he larval stage, as the adults have non-unctional mouths. The adults emerge rom mid-July until September.

Saskatchewan Ghost Moths are of wo genera; the genus *Sthenopis* with a wing expanse from 60 to 90 mm and the genus *Hepialis* with a wing expanse round 30 mm.

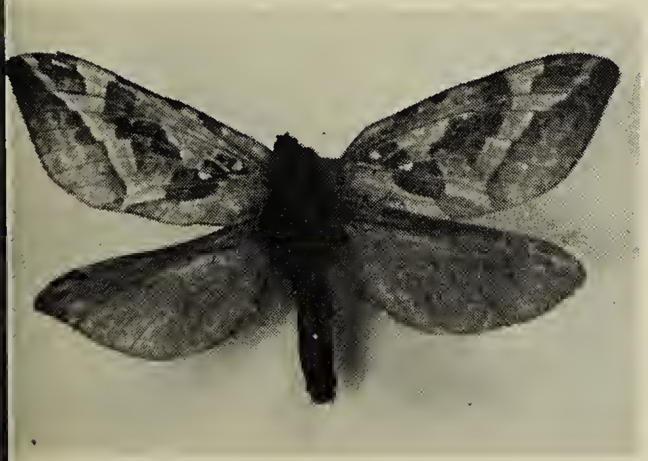
The Saskatchewan species of *thenopis* are:

thenopis argenteomaculatus (Harris) — (The Silver-spotted Ghost Moth). Forewings banded with dark brown; hindwings mouse grey in the male, straw yellow in the female. Lower silver spot in the middle of the forewing enlarged and triangular. The larvae feed on alder roots, and also other plants, as they are found in areas where there are no alders. This species is rather common.

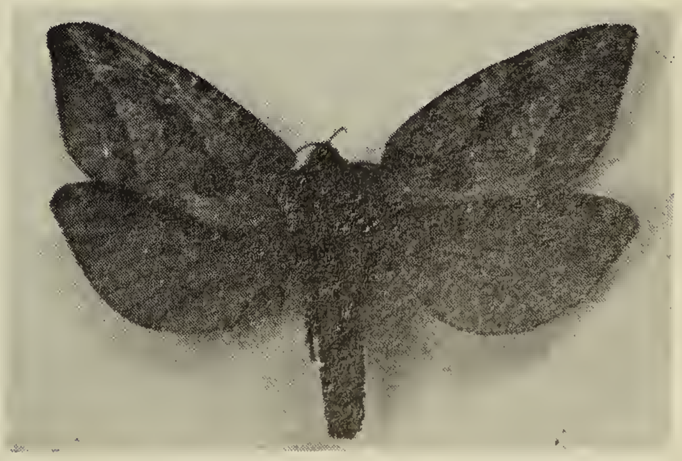
Sthenopis purpurascens (Packard) — Forewings banded with dark brown; hindwings mouse grey. Silver spots on forewings equal in size or altogether lacking. Easily confused with male Silver-spotted Ghost Moth. There are a few unconfirmed records for Saskatchewan.

Sthenopis quadriguttatus (Grote) — Hindwings salmon pink; dark bands on forewings yellowish-brown. A common species. The females lay their round, smooth, creamy-white eggs along the edges of poplar woods.

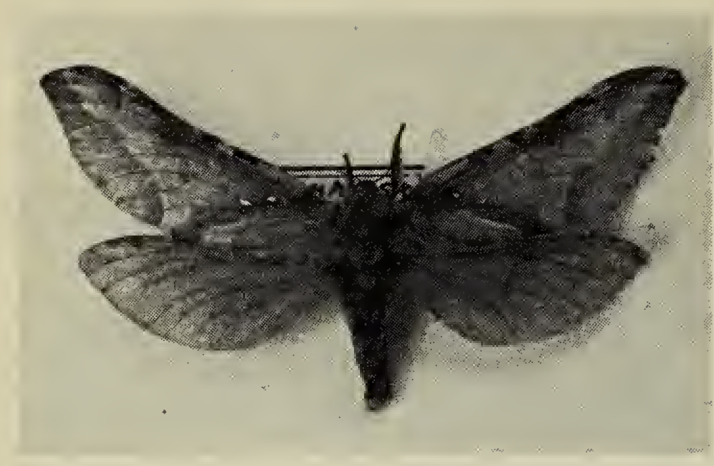
(*Sthenopis thule* (Strecker) is pale yellow or dusky white. The submarginal bands of the forewings are reduced to brown spots. The caterpillars feed on willow roots. This species has been reported from Manitoba and should be watched for in eastern Saskatchewan).



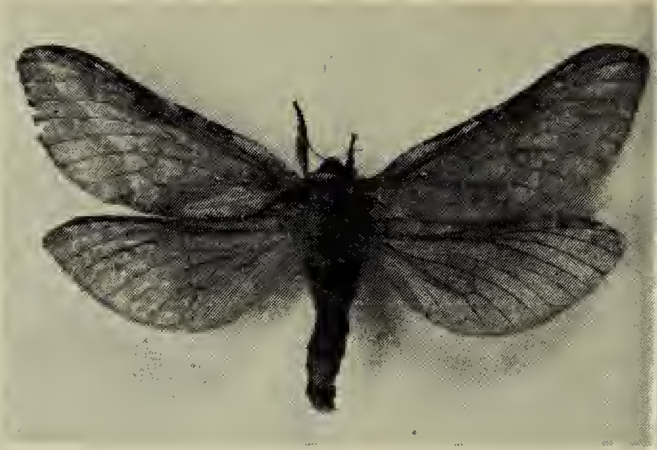
henopis argenteomaculatus (upper).
. Harris



Sthenopis argenteomaculatus (under).
W. Harris



Sthenopis quadriguttatus (upper). W. Harris



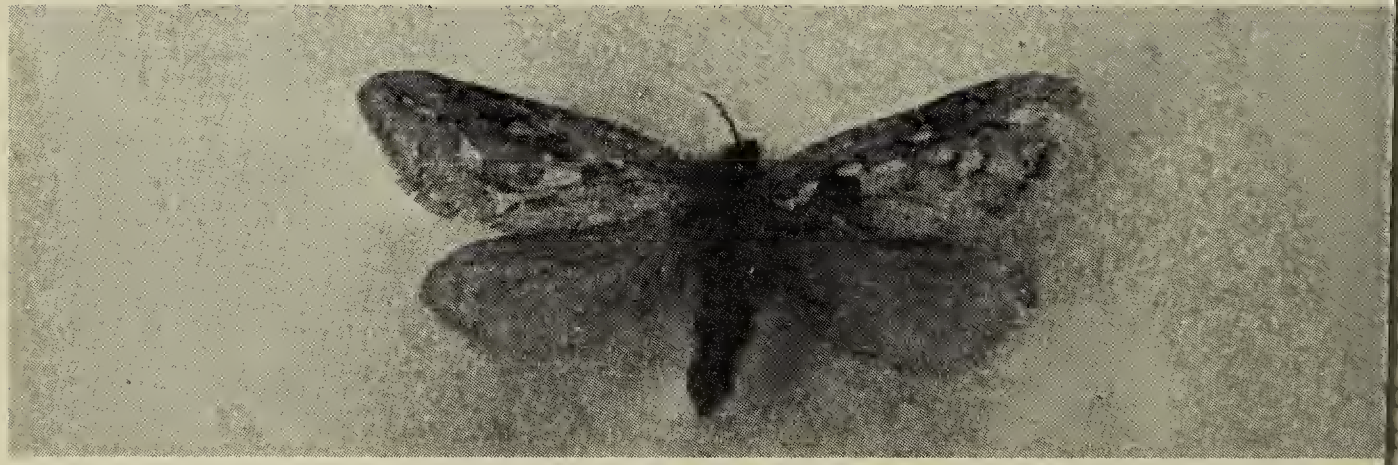
Sthenopis quadriguttatus (under). W. Harris

The Saskatchewan species of *Hepialis are:*

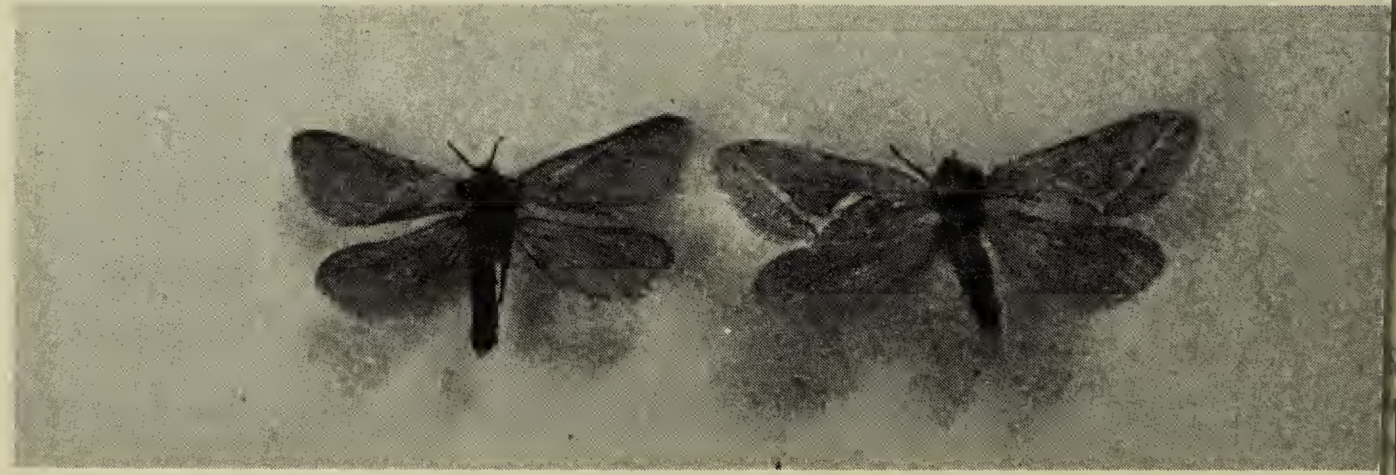
Hepialis hyperboreus (Moschler) — Yellowish brown. An almost continuous v-shaped silver line starting at the apex of the forewing and extending almost to the base of the wing. Found in the Canadian Zone in Central Saskatchewan.

Hepialis novigannus (B.&B.) — Similar to *H* *hyperboreus* but the silver line on th forewing with the lower edge straighte Occasional in pine woods i September.

(*Hepialis gracilis* (Grote) — Brownish gre with the forewings marked with a v shaped band. Suspected of being species that feeds on ferns. Occu west to Alberta, so it undoubtedly will b yet discovered in Saskatchewan).



Hepialis hyperboreus. *W. Har*



Hepialis novigannus; L-upper, R-under. *W. H is*

GHOST MOTHS AT THE PAS, MANITOBA

WALTER KRIVDA, P.O. Box 864, The Pas, Manitoba. R9A 1K8

Ghost moths are large moths. An outstretched specimen will fill the whole palm of the hand. They are flesh coloured. They have heavy abdomens he size of one's little finger. When ound, they are always impressive.

In The Pas area, they come to lights n midsummer and settle on a wall or oor, often just above the light source. hey hang downward like a limp rag nd will spend the whole night in this osition. Due to their size, they may be ulnerable to sparrow âttack. It is said hat the caterpillar is white and lives un-erground for several years. According o authors one species feeds about the oots of water plants in low, wet places. here seems to be no record of anyone nding a Ghost Moth caterpillar in anada.

The females lay eggs like poppy eeds falling from a pod. A female, held n the hand, will lay dozens of eggs in a ery short time. Evidently, they are dis-ibuted at random as the female is on e wing. Thousands of eggs are so ropped at random. Apparently, this rolific egg production and dispersal is ecessary to assure the survival of the pecies. I have seen no data on how any eggs a female has been known to y. This could be a project for some udent interested in moths. It would roduce new knowledge on a little nown subject. The number of eggs laid ay parallel those laid by say, a salmon.

Some Ghost Moths are very rare. *thenopis thule* (Strecker) in Southern anitoba has been taken four times nly in the past 90 years. There are at ast four species of Ghost Moths in The as area. Two are the very large species mentioned above and two species are rather small — perhaps 30 mm across. The smaller species are the scarce ones in this area. Some 30 years of collecting has failed to produce even a dozen specimens.

The large, rare, yellowish species mentioned above occurs in the Dauphin area and may be associated with the Duck Mountain Drainage system. I collected the fourth known Manitoba specimen, in Dauphin, some years ago. It was on the bus depot window and was the only insect present! In the Riding Mountains of Manitoba, where I was Park Naturalist for four seasons in the early 60's, at least two other species of Ghost Moths occur. There may be, therefore, in Manitoba, about six species of the group. They belong to different genera, but all are true Ghost Moths.

The whole group is of very ancient stock — perhaps at the very root in the evolution of the Lepidoptera . . . which makes it 200 million years ago.

There are dozens of species in Australia and Ceylon. Some of the largest known moths are Ghost Moths. A particularly spectacular species from Australia is a giant — 25 cm across.

Students of this group of insects will find that the specimens tend to go greasy in a few years. Over a period of years, the grease will spoil the specimens if it is not removed. They are very easily cleaned by placing the whole specimen, labels and all, into a jar that has previously been filled with naptha. The specimens come out clean and very fresh looking after a few hours.

TYPE LOCALITIES OF THE BADLANDS OLD WORLD SWALLOWTAIL IN ALBERTA

NORBERT G. KONDLA, Parks Division, Alberta Recreation and Parks, Rimbey, Alberta. T0C 2J0

Type specimens are important for taxonomic study because they represent the original concept of the organism to which a name was applied. Similarly the collection locations of type material are important because they indicate where persons doing subsequent study can find specimens representative of the taxon being studied.

The Badlands Old World Swallowtail (*Papilio machaon dodi*) was described by McDunnough primarily on the basis of specimens collected along the Red Deer River in Alberta.[2] The original description was vague on the collection localities of the type material.

The holotype and paratypes were collected by F. H. Wolley-Dod along with Red Deer River "50 miles NE of Gleichen" according to McDunnough.[2] Wolley-Dod's publications were vague on the exact location of his collections here and subsequent authors often erroneously assigned much of the pertinent material simply to Gleichen. Bird and Harper assigned Dorothy as the place where Wolley-Dod collected the Badlands Old World Swallowtail.[1] Prior to publication of Bird and Harper's paper, I had independently arrived at the same conclusion. Therefore, the type locality of the Badlands Old World Swallowtail is now fixed as Dorothy, Alberta.

There remains now to clarify the location of the allotype specimen collected by C. H. Young on 8 July 1917. McDunnough stated that the allotype was collected "in the same general region" (as the holotype). However, this is not correct because Young's field itinerary as published by Taverner shows that the allotype was collected along the Red Deer River near Nevis, about 100 km NW of Drumheller.[3]

The *machaon* complex of swallowtails (in Alberta represented by the species names *zelicaon, machaon,* and *bairdii*) has received considerable attention by taxonomists but there are still more questions than answers. Specimens with intermediate characters and variation of 'black' phenotypes make it difficult to pigeonhole many specimens. Distribution and ecology are also poorly documented in the literature. Research presently underway by F Sperling at the University of Alberta wil surely help to clarify this interestinc group of swallowtails.

[1] BIRD, C. D. and A. M. HARPER 1980. F. H Wolley-Dod, Alberta's leading pionee lepidopterist; Alberta Naturalist 10:4 55.

[2] McDUNNOUGH, J. H. 1939. A new race c *Papilio* belonging to the *machaon* complex. Canadian Entomologist 71:21 217.

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EDITOR'S NOTE: The type specimen holotype is the individual from which is mad the original taxonomic description of species. Paratype specimens are addition specimens cited in the original taxonom description. An allotype specimen is paratype of the opposite sex to the holotyp and is designated in the original descriptio

ADDITIONS TO THE CHECKLIST OF SASKATCHEWAN BIRDS SINCE 1969

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The fifth edition of the *Field Check-list of Saskatchewan Birds,* published by the Saskatchewan Museum of Natural History in June 1969, listed 325 fully accepted species and 15 hypothetical species. Since then, a surprising number of additions to the provincial list have been reported. We are reminded of Newman's 1976 prediction, with tongue only lightly in cheek, that ". . . given enough time all the species of birds in North America will be recorded from all the states."[36] Newman, in turn, quoted Joseph B. Grinnell as the first man to recognize this phenomenon in 1922, when Grinnell calculated that by the year 2331 the California list, at the 1922 rate of additions, would contain all North American bird species.[19]

In the early years of ornithology, a specimen was required before a species could be added to any full provincial list. When Mitchell published his "Birds of Saskatchewan" in the *Canadian Field-Naturalist* in 1924, he listed 265 fully accepted species plus 29 hypothetical species and nine additional, recognizable subspecies.[33] In 1943, L. B. Potter's list noted specimen records for 15 of the previously hypothetical species and added specimen records for seven more: American (Great) Egret, Hudsonian Curlew (Whimbrel), Rufous Hummingbird, Calliope Hummingbird, Green-tailed Towhee, Black-throated Blue Warbler, and Mockingbird.[39] Potter also listed a personal sight record of the Pinyon Jay, and E. H. M. Knowles' supposed observation of a Black Vulture, based on Knowles' admitted lack of knowledge of the immature plumage of the Turkey Vulture at that time. The provincial list was growing (Table 1).

In 1947, the Yorkton Natural History Society had an opportunity to use type already set for the Manitoba Natural History Society's Check-list, adding and deleting a few species as necessary. This was based on Potter's additions, but adding the Oregon Junco which had achieved full species status in the Fourth American Ornithologists' Union (AOU) Check-list of 1931, the American or Northern Three-toed Woodpecker on the basis of a 1939 Regina specimen, and three introduced species, the Ring-necked Pheasant, Chukar and Starling.

In February 1954 the second edition of this check-list, compiled by F. G. Bard and C. S. Houston, was published by the museum with the cooperation of the Yorkton, Prince Albert and Regina Natural History Societies. The printer was asked to substitute "Pink-sided Junco" in place of the unconventional species name of "Red-backed Junco" used by Taverner in *Birds of Canada*,[51a] but in error both names appeared. Four formerly hypothetical species were now given full status: Pacific (Arctic) Loon, Great Gray Owl, Yellow-throated Vireo and Scarlet Tanager, the first three on the basis of specimens and the latter on the basis of numerous sight records by competent observers of an easily recognized species. Harlan's Hawk was now added, since it was listed as a full

Table 1. SASKATCHEWAN BIRD SPECIES TOTALS

	Fully accepted	*Hypothetical*
1924 List[33]	265	29
1943 List[39]	287	15
1947 List[55]	292*	13
1954 List[3a]	297**	11
1958 List[27a]	304	12
1959 List[27b]	308	12
1969 List[1a]	325	15
1981 List	339	40***

* The 1947 checklist stated 294 in error.

** The 1954 checklist stated 298 in error.

*** Thirty new species, plus nine holdovers from 1969 list, plus Mountain Plover, fully accredited in error in 1969 and now reduced to hypothetical status.

species by the AOU. The American Woodcock and Black Vulture were deleted from the hypothetical list, since the compilers agreed that they were based on erroneous sight records. The Varied Thrush and Field Sparrow were new to the hypothetical list. By mistake, the query marks to indicate hypothetical status were omitted from both the Mountain Plover and the Swallow-tailed Kite, this error for the Mountain Plover being perpetuated in subsequent editions.

In March 1958 and in June 1959, the third and fourth editions, each compiled by C. S. Houston, F. G. Bard and R. W. Nero, were brought out in quick succession, the fourth in time for the annual meeting of the AOU in Regina in August 1959. The third list elevated Yellow-billed Loon, Least Bittern and Parasitic Jaeger to full from hypothetical status on the basis of specimens and added Black Brant and Golden-crowned Sparrow because of specimens and Parula Warbler on the basis of a recognizable photograph. Since the dowitchers were now considered by the AOU to be two separate species, one more name was added to the list. New hypotheticals on the basis of sight records were the Little Blue Heron, Snowy Egret, Black-necked Stilt, Pine Warbler, and Cardinal, while the Scarlet Tanager was relegated back to the hypothetical list at the insistence of the third compiler because there was no extant specimen or photograph.

The fourth edition added two introduced species, the Mute Swan and Rock Dove, and two species with specimens, the Barred Owl and Red-bellied Woodpecker, to the full list.

In June 1969 the museum published a fifth list compiled at their request by C. S. Houston, with assistance from F. G. Bard, R. W. Nero and F. H. Brazier. The 1968 proofs contained the authors' names, but the published version did not. Six species moved up from the hypothetical to the fully accepted list: Greater Scaup (which had been omitted entirely from the fourth list), Poor-will, Varied Thrush, Pine Warbler, Scarlet Tanager, and Cardinal. There were 11 new, fully accepted species: Rock Ptarmigan, Turkey (introduced), Snowy Plover, Ruff, Glaucous Gull, "Iceland Gull" (based on specimens of Thayer's Gull, briefly considered as a subspecies of the Iceland Gull), Little Gull, Williamson's Sapsucker, Violet-green Swallow, Blue-winged Warbler and Black-throated Gray Warbler. The nine new hypothetical species were: Green Heron, Barrow's Goldeneye, Eskimo Curlew (based on records from the 1820's), Long-tailed Jaeger, Least Tern, Eastern Wood Pewee, Mountain Chickadee, Prothonotary Warbler, and Golden-winged Warbler.

Since 1969, 14 species have been added to the fully accepted list, while here are sightings of another 30 species of varying degrees of credibility. Documentation for the 14 follows, with details of the other 30 species slated for publication in the December 1981 issue of the *Blue Jay*.

New, Fully Accepted Species

(Note: an asterisk* indicates a species listed as hypothetical on the 5th Saskatchewan Check-List; when no asterisk is present, this indicates a new species to the list. The cutoff date is 31 December 1980.)

. *GREEN HERON

A single bird at the Regina Waterfowl Park was sighted first by Robyn Donison on 20 May 1975, confirmed by . W. Lahrman, F. H. Brazier, E. L. Fox nd Tom Beveridge, and photographed y Dwayne Harty. This individual was resent through 31 May and this or another bird was seen in the same area n 21 June, 17 August and 6-7 September 1975.[12] Another individual was seen at the Regina Waterfowl Park 8-31 May 1979, studied by many observers and photographed by R. L. Scott.[4]

The first Saskatchewan sighting of a Green Heron was at Radville on 22 June 966, by Cliff Matthews.[32] Other ghtings of single birds have been made y F. H. Brazier at Regina on 12 June 971,[26] at Saskatoon by D. R. M. Hatch n 8 September 1977,[4] at Yorkton by . S. and M. I. Houston on 10 August 977 (unpublished), and at Val Marie by uart Keys on 8 September 1980.[21]

2. *LITTLE BLUE HERON

An adult was photographed by W. C. Harris and S. M. Lamont on 19 June 1976 at the north end of Last Mountain Lake, and the color photograph, when highly magnified, allowed positive identification.[22]

Previously, Joyce Gunn saw four at Good Spirit Lake on 24 May 1956;[2] Houston and others saw one south of Yorkton on 9-21 September 1956, with a nearly identifiable photograph published;[25] Peter McLellan had sightings near Arcola in 1956 and in Moose Mountain Provincial Park on 12-14 June 1959;[35] and Robyn Donison saw one at Regina on 1 July 1976.[43]

3. CATTLE EGRET

Dale Hjertaas found six Cattle Egrets near Maxim on 28 July 1977 and a photo by Dave Duffus placed this species on the confirmed list; up to 10 were present there through 23 August 1977.[24] Another bird, seen near Richardson on 22-29 May 1978 by Tom Riffel and many observers, was the subject of a delightful photo by Gary Seib.[4]

Cattle Egret. *Fred W. Lahrman*

Other Saskatchewan sightings of the Cattle Egret have included: two near Eyebrow on 14-17 June 1974 by Hugh Hedger;[28] one south of the Hague ferry on 27-28 May 1978 by many observers;[38] three at Kinistino on 8 June 1978 by Dennis Hooey and D. R. Smith;[47] up to seven at Little Quill Lake in August 1977 by John Totten;[14] one at "Buck Lake" south of Regina on 22 May 1979 by F. W. Lahrman;[4] one at Spring Valley, 24-30 October 1979 by Flossie Bogdan;[20] one near Dana on 9 August 1980 by W. C. Harris.[21]

4. *SNOWY EGRET

Don Weidl photographed a Snowy Egret at Crooked Lake in the Qu'Appelle valley on 7 May 1978, 2 days after Milton Criddle first sighted it.[53]

Other Saskatchewan sightings of the Snowy Egret have included: one at Good Spirit Lake on 23-27 May 1956 by Joyce Gunn and Bill Anaka;[2] one east of Craven on 9 July 1956 by E. L. Fox and A. Swanston;[2] one at Cypress Lake dam on 19 June 1970 by W. C. Weber;[52] one at Brightwater Reservoir south of Dundurn on 15 May 1977 by J. B. Gollop;[45] two at Briercrest on 5 July 1977 by Dale Hjertaas;[46] one at Bradwell Reservoir o 3-4 June 1978 by J. B. Gollop and si others;[47] one at Chapleau Lake south o Indian Head on 3 May 1979 by G. W Beyersbergen and D. J. Neiman although the latter's initials were incorrect as published;[15] one at Ardill o 31 May 1979 by Don Weidl, D. W Goerzen and D. W. Phillips;[16] one at th north end of Last Mountain Lake on 3 May 1980 by Clint Jorgenson, Gle Vandoorne and Brenda Dale.[17]

5. WHITE-FACED IBIS

One was sighted at Stalwart Marsh o the west side of Last Mountain Lake b Bob Luterbach and others on 29 May- June 1976, and a recognizab photograph was obtained by F. V Lahrman.[29] That fall, Lahrman saw a immature at Valeport Marsh on 13 O tober 1976.[44]

Brad and Jan Mason saw three at th north end of Last Mountain Lake on May 1977.[10] John Totten saw up to fo at Little Quill Lake in August 1977 R. J. Long saw two near Kincaid on May 1978 and obtained a brief 16 m movie sequence (undated 1980 letter C. S. Houston).

White-faced Ibis. *Fred W. Lahr*

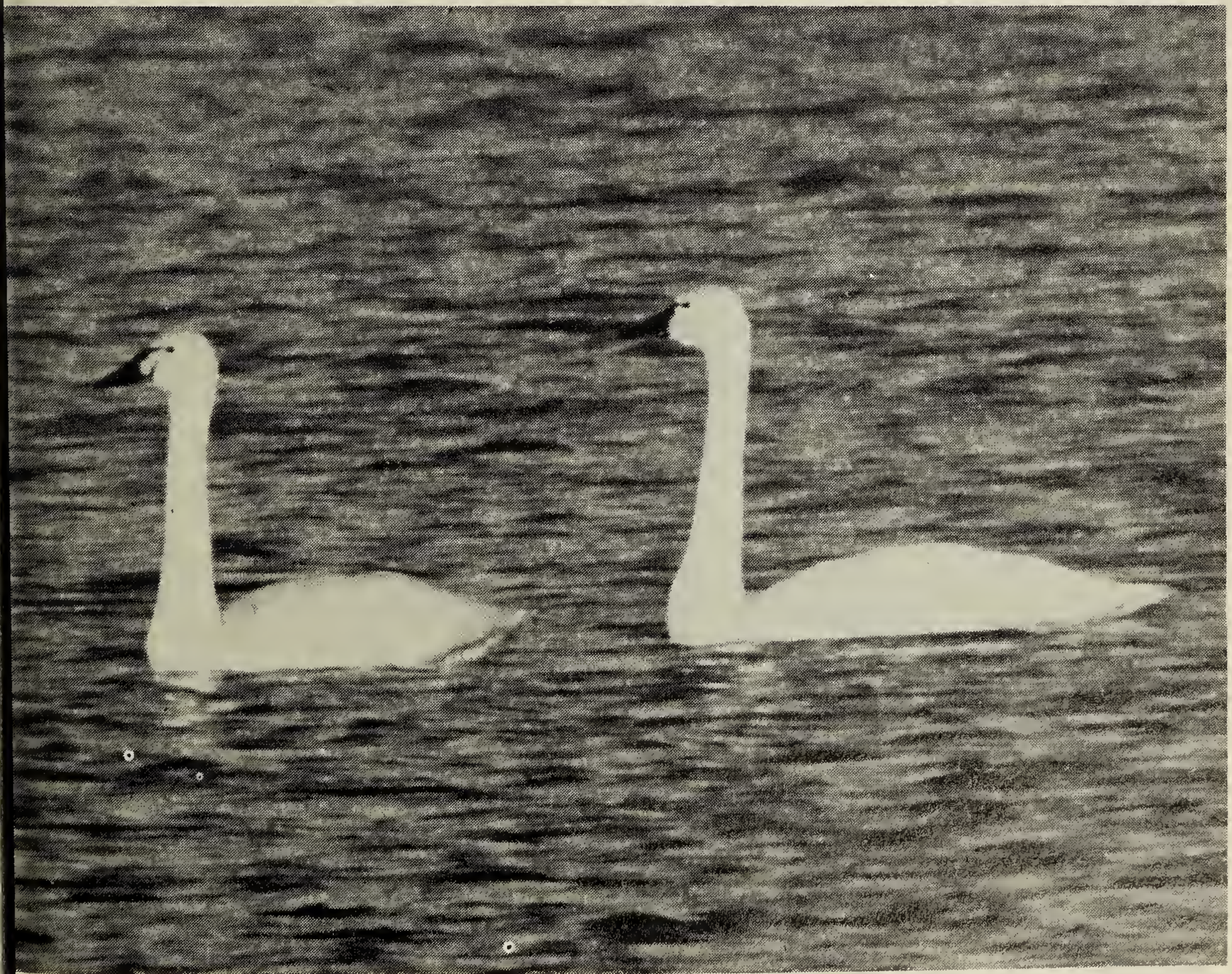
6. BEWICK'S SWAN

One was noted at Condie Dam near Regina by Bob Kreba and Bob Luterbach and later by Margaret Belcher and F. W. Lahrman, and was present from 27 October-11 November 1978.[48] The photograph taken by Lahrman was acceptable to M. E. Evans and W. J. L. Sladen as that of a Bewick's Swan.[13]

Another Bewick's Swan was seen at Regina by Bob Luterbach on 9 October 1979.[20] However, we anticipate only a brief listing of this form as a full species if views of current authorities prevail;[13] it seems probable that the Bewick's and Whistling Swans will soon be combined into one species, the Tundra Swan.

7. BLACK SCOTER

Specimens of the Black Scoter collected from Reindeer Lake in 1881 or earlier by A. S. Cochrane,[5] and by Joseph Hourston on 28 May 1891,[31] may have been from either side of what is now the Saskatchewan-Manitoba boundary; they were presented to Robert Bell of the Geological Survey in Ottawa. James Flett collected two specimens of the Black Scoter from "Fond du Lac," presumably the community of this name in what is now Saskatchewan, even though Flett then managed the post at Fort Resolution on Great Slave Lake; these were also forwarded to Robert Bell.[31] The specimen from "Saskatchewan," listed as "received from the Geological Survey, Ottawa, 1903," in the Rocky Mountain Park Museum at Banff,[50] was no doubt an authentic Saskatchewan specimen, and almost certainly was one of the four mentioned above.



ewick's Swan (on left).

Fred W. Lahrman

Modern sight records of the Black Scoter began with one seen by S. D. Riome at Tobin Lake on 24 and 31 October 1970.[40] A. R. Smith then saw three on 14 October and two on 15 October 1975 at Blackstrap Reservoir near Dundurn.[37] F. W. Lahrman photographed an adult and an immature at Condie Reservoir near Regina on 16-18 October 1976.[4] M. E. Szumigalski sighted a female on the river north of Saskatoon on 12 and 15 April 1977 (card in Saskatoon bird record file, not used in Saskatoon Field Notes). An adult male was sighted at Wascana Waterfowl Park on 6 November 1978 by F. W. Lahrman, Margaret Belcher and others and was photographed by Lahrman.[4] A probable adult female at Wascana Waterfowl Park on 23 and 26 October 1979 was seen by Bob Luterbach, Bob Kreba and others.[4] Three were seen at Regina Beach on 1 November 1980 by Luterbach and an adult male was seen at Indian Head on 11 November 1980 by Lahrman and R. L. Scott.[21]

Black Scoter. *Fred W. Lahrman*

8. THAYER'S GULL

The specimen of Thayer's Gull collected by R. W. Nero at Uranium City near Beaverlodge Lake on 9 June 1960, following the recognizable photograph of eight birds on 5 June 1960, was considered at the time to be a subspecies of the Iceland Gull, although previously it had been considered a race of the Herring Gull.[34] The Iceland Gull was thereby prematurely, inappropriately and only temporarily placed on the Saskatchewan list, leading to much confusion. Nero also saw an adult Thayer's Gul near Uranium City on 1 July 1960.[34]

A Thayer's Gull was noted at Regina from 21 to 27 October 1980 by Bob Luterbach and Bob Kreba.[21]

In the 32nd supplement to the AOU Check-List, Thayer's Gull was for the first time recognized as a separate species,[1] thereby removing the Iceland Gull from the official Saskatchewan list

9. SCISSOR-TAILED FLYCATCHER

A recognizable photograph was taken by Kathy Meeres of a Scissor-tailed Flycatcher south of Saskatoon between 20-24 September 1980. It was seen by many observers after its firs sighting by J. B. Gollop and is now placed on the fully accredited list.[21]

Previous Scissor-tailed sightings, a of single individuals, were at Mileston on 24 September 1970 by Mrs. Jea Bradley,[6] at Lumsden on 26 Augus 1975 by A. J. MacAulay,[30] and nea Tugaske on 6 June 1978 by Fran Perlett.[23]

10. WILLOW FLYCATCHER

Stein's paper in 1963,[51] whic proposed separation of the Trail Flycatcher into two species, th northern Alder Flycatcher and the mo southern Willow Flycatcher, was mad official by the 32nd supplement to th AOU Check-List in 1973.[1] Stein ga the range of the southern race here u der discussion as including northe

North Dakota and "probably southern Saskatchewan."[51]

In Saskatchewan, the commoner of these two closely related and very similar species is undoubtedly the Alder Flycatcher, which is locally common in moist willow habitat in the central part of the province, particularly near the southern edge of the mixed coniferous-deciduous forest. Henri Ouellet of the National Museum of Canada has advised that individual specimens of Willow and Alder Flycatchers cannot be distinguished in the hand.[4] W. B. Robertson has warned that, at least in Ontario in 1978, "Birds of each song type occurred widely in habitat and range characteristic of the other," with the "chilling suspicion that some individuals may speak both pieces."[41]

A breeding specimen in the Saskatchewan Museum of Natural History, collected at Carnduff, has been ascribed to this form on the basis of locality and song, according to F. W. Lahrman. Callin found birds with the Willow song type nesting sparingly in the Qu'Appelle valley, and R. J. Long recorded their calls at Lebret on 3 July 1974.[11] Bob Luterbach reported singing birds at Strawberry Lake south of Indian Head on 29 June 1975.[11] S. M. Lamont reported five singing males at Nicolle Flats southeast of Buffalo Pound Lake on 28 June 1978;[4] these birds were in willows spread out over nearly 1 km of marsh edge.

11. *EASTERN WOOD PEWEE

On 14 June 1884 Ernest E. Thompson (Seton) collected an Eastern Wood Pewee on the slopes of the Duck Mountains northeast of the present village of Runnymede.[27] This was only 2 days after he had collected a Western Wood Pewee on his homestead, on the south half of 36-28-31W1, southwest of present Runnymede. The present location of these specimens is unknown. Modern substantiation was achieved when W. C. Harris taped an Eastern Wood Pewee's song at Good Spirit Lake on 11 June 1977, and had the identity confirmed by Henri Ouellet at the National Museum of Canada.[4] Bob Godwin and Brian Johns also tape-recorded 20 songs of a single Eastern Wood Pewee near Saskatoon on 5 July 1978.[4]

E. M. Callin reports that the Eastern Wood Pewee ranges more than 80 km up the Qu'Appelle valley from the Manitoba boundary, east as far as Round Lake.[11] Callin himself heard one at Scissor Creek where it crosses Highway 9 on 9 June 1974 and S. M. Lamont heard one each at Scissors Creek and Bear Creek on 27 and 28 July 1977.[11] In 1976, D. R. M. Hatch heard eight individual Eastern Wood Pewees in a 40-km breeding bird survey between Tantallon and Round Lake.[11]

Presumed Eastern Wood Pewee songs beyond the known breeding range have also been heard at Kenosee Lake by R. W. Nero on 17 August 1963,[35] at Flying Creek near Regina by Al and Betty Binnie on 11 May 1968,[4] at Fort San by E. M. Callin on 22 June 1968,[11] at Ranch Lake west of Naicam on 6 and 17 June 1972 by W. C. Harris,[8] and at Kenosee Lake by Lars Norgren on 21 August 1975.[42]

Unpublished notes concerning Eastern Wood Pewee songs include one in the Pasquia Hills, 90 km north of Hudson Bay, on 24 June 1975 by W. C. Harris, two seen and heard at Little Kenosee Lake in Moose Mountain Provincial Park on 24 August 1975 by W. E. Renaud, Eric Tull and Allan Wiseley; one at McBride Lake on 12 June 1980 by W. C. Harris, and one at Good Spirit Lake on 13-14 August 1980 by Bill and Joyce Anaka.

12. *GOLDEN-WINGED WARBLER

This species is now fully accepted on the basis of sound recordings made in Regina by F. G. Bard on 2 June 1968, with 21 songs recorded over 5 hours; the male singer was seen while singing for 30 seconds.[3] The recorded songs followed exactly the audiospectrogram given by Robbins, Bruun, Zim and Singer.[41a]

There was a previous sight record for Regina by F. H. Brazier on 18 May 1962,[7] and a subsequent sighting by F. Lawrence, E. L. Fox, G. F. Ledingham, Jim and Shirley Jowsey on 1 October 1972, each in the Legislative grounds.[4] Bob Luterbach saw a male at Yorkton on 30 May 1973 (pers. comm. on 5 December 1980 to C. S. Houston).

13. ORCHARD ORIOLE

This species is fully accepted. The first Saskatchewan sighting was of a breeding pair, a first year male and a female, near Fort Qu'Appelle on 19 June through 22 July 1974.[9] These birds were found by E. M. Callin, confirmed by F. H. Brazier and Jack Lowe, tape-recorded by R. J. Long and photographed by Dwayne Harty. One young was seen after fledging.

A male in first-year plumage was seen on Vic Harper's farm, 20 km northwest of Saskatoon on 15 and 19 June 1980; the nest, closely suspended below the horizontal branch of a large spruce 5 m above the ground was located on 4 July 1980 by Chris Escott, Ron Jensen, Lawrence Baschak and Stan Shadick, and the young were being fed out of the nest on 16 and 18 July.[49] This is the most northerly breeding record in North America; a colour photograph and the specific characteristics of the nest confirmed the identification. At the same time another first year male was with a female sitting on her nest in an elm, 3 km east of the dam across Buffalo Pound Lake, when found by Nigel Caulkett and Dale Hjertaas on 30 June 1980.[49] On 12 July Stan Shadick and Lawrence Baschak found two young, one in and one out of this nest, being fed by the male.[49]

In addition to these three Saskatchewan breeding records, there have been a number of sight records: an adult male seen and heard by D. R. M. Hatch at the mouth of Cutarm Creek near Tantallon on 8 June 1976;[11] a probable sighting at Indian Head by Ray and Rose McLaughlin on 8 June 1976;[11] an immature male at the north end of Last Mountain Lake seen by W. C. Harris, Glen Vandoorne, and Brenda Dale on 30 May to 3 June 1980,[18] while its song was tape-recorded by Dale and Paule Hjertaas; a pair was seen at Oxbow throughout the summer of 1980 by Hazel Paton.[18] First year male Orchard Orioles have been seen at Regina by Al and Betty Binnie on 19-25 June 1972,[4] by Shirley Jowsey on 24 May 1979,[4] and by Diane Secoy on 26 May 1980.[17]

14. SUMMER TANAGER

The first Saskatchewan record, with an identifiable series of photographs, was obtained by Jack and Janet Wilkinson at Frontier on 7 May 1976.[54]

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Swainson's Hawk. *Juhachi Asa*

RECENT OBSERVATIONS OF WOOD DUCKS IN EAST-CENTRAL SASKATCHEWAN

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The Wood Duck has been recorded in small numbers throughout eastern Saskatchewan. The first documented observations were made in the late 19th century, with breeding records from Indian Head in 1888 and Cumberland House in 1890.[2 1 3 5 6] Since that time, Wood Ducks have been recorded with young on the Qu'Appelle River, east of Craven.[4] A number of other breeding records have been submitted, notably from southeastern Saskatchewan, around Estevan (D. A. Duffus and R. J. Santo, pers. comm.). This note describes recent observations of Wood Ducks in east-central Saskatchewan.

CUMBERLAND HOUSE

Staff of Ducks Unlimited (Canada) made several observations of this species in the Cumberland Marshes complex during 1980. (Table 1 and Figure 1A). In 1979, banders from the United States Fish and Wildlife Service (USFWS) banded a lone drake on Waterhen Lake, Cumberland. All of the Wood Ducks observed in the area were dentified as males.

OVERFLOWING RIVER and LEAF LAKE

The Overflowing River is a deep, narrow, meandering channel that drains nto the southwest corner of Leaf Lake from the Pasquia Hills (Figure 1B). Its banks are densely vegetated by willow (*Salix* spp.). The uplands adjacent to the river are primarily willow/sedge meadows (*Carex* spp.) and, as elevation ncreases, mature hardwood stands (*Populus* spp.; *Ulmus* spp.; *Fraxinus* spp.; *Acer* spp.) occur, often adjacent to the river itself.

On 18-19 September 1980 we observed between 25 and 30 Wood Ducks using the overhanging willows along the river as loafing areas. The birds were observed as individuals and in small groups, flying out from the willows at distances ranging from 10 m to 75 m ahead of us. During the first surveys, the distance at which a bird or flock flushed seemed to be primarily a function of how clearly it could see us. Larger groups would flush in one's and two's rather than as a group. Once in the air, the birds generally gained altitude rapidly and circled around behind us, landing downstream, permitting an accurate estimate of numbers. We repeated this exercise three times over a period of two days, each time arriving at a similar number. The birds became more nervous with each "survey" and flushed farther from the boat each time.

We managed to identify three adult males and six adult females. The remainder of the birds observed were indistinctly marked, and superficially resembled adult females, although their plumage was duller and the eye-rings were absent, features characteristic of immature birds.[1]

There have been no breeding records reported for the Wood Duck along the Overflowing River.

Earlier this century, the Wood Duck

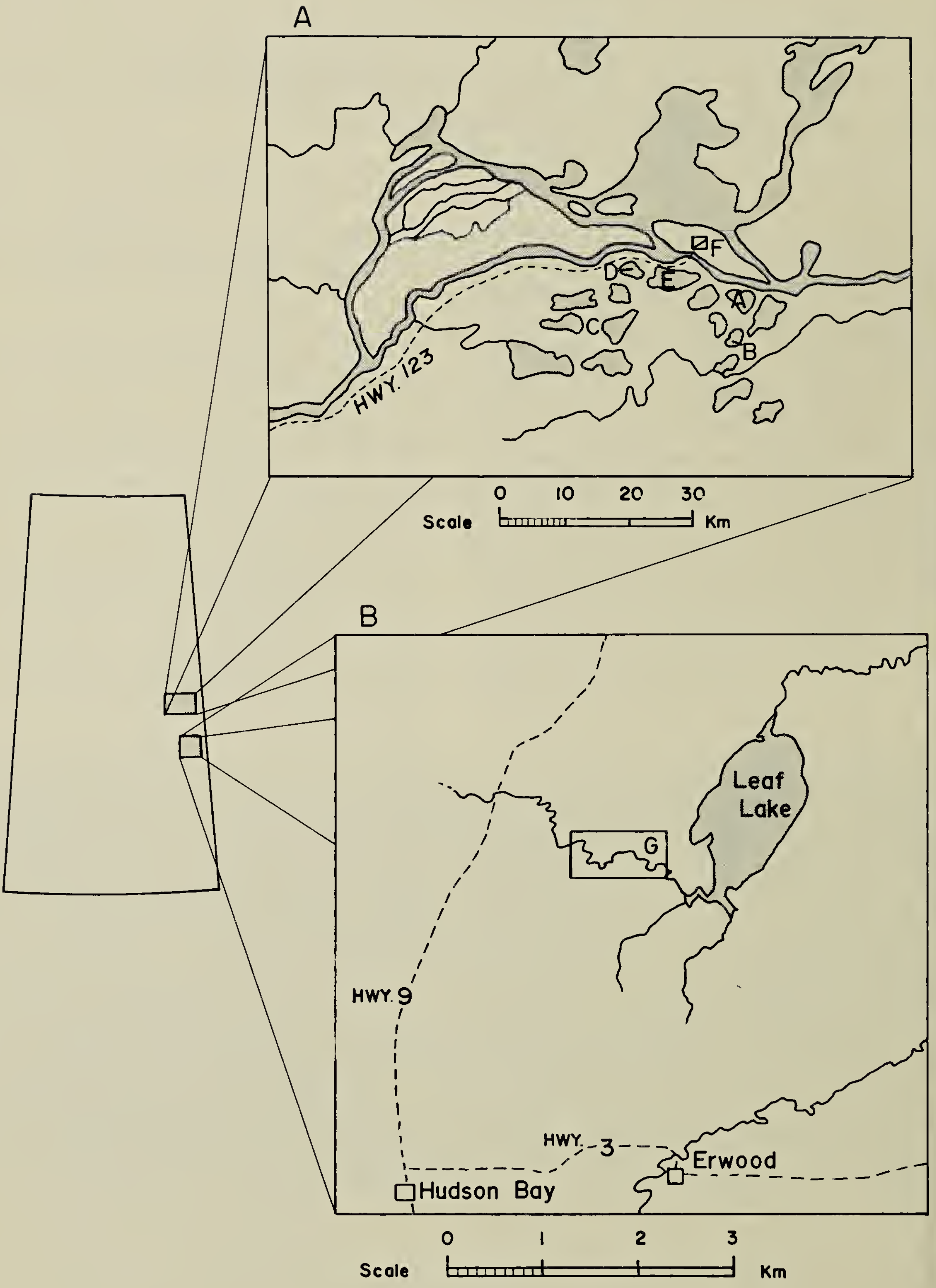

Figure 1. A — N. McGregor Lake, B — Beaton Lake, C — West Channel, D — Waterhe Lake, E — Egg Lake, F — Cumberland House, G — Section of Overflowing Riv where observations were made.

Table 1. WOOD DUCK OBSERVATIONS — CUMBERLAND MARSHES, 1979 AND 1980.

Date	*Location*	*No. of Birds (all males)*	*Authority*
1979	Waterhen Lake	1	Banded by USFWS
31 May 1980	Egg Lake	1	D. Phillips
28 July 1980	North McGregor Lake	1	D. Phillips
19 Sept. 1980	Beaton Lake	3	D. Phillips
22 Sept. 1980	Beaton Lake	22	D. Phillips
26 Sept. 1980	Beaton Lake	1	D. Phillips
6 Oct. 1980	West Channel	1	D. Phillips

Wood Ducks. *Fred W. Lahrman*

seemed to be on the brink of extinction throughout many parts of its range in North America.[5] An expansion in its range seems to be the present trend.[5] Attempts to encourage this trend are underway throughout the western provinces, primarily in British Columbia and Manitoba. In Saskatchewan, efforts have been undertaken by local wildlife federation branches to provide suitable nesting sites by erecting nest boxes in areas where birds have been sighted. Further investigation may reveal, however, that there is already a viable, but previously underestimated, breeding population in east-central Saskatchewan.

We wish to thank the following people for their support: D. A. Phillips, D. F. Hooey, R. W. Boychuk and D. J. Munro. Appreciation is shown also to J. B. Gollop for critical review of the manuscript.

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HIGH MORTALITY OF GREAT GRAY OWLS IN MANITOBA — WINTER 1980-81

ROBERT W. NERO, Wildlife Branch, P.O. Box 14, 1495 St. James Street, Winnipeg, Manitoba, R3H 0W9 and HERBERT W. R. COPLAND, Manitoba Museum of Man and Nature, 190 Rupert Avenue, Winnipeg, Manitoba. R3B 0N2

Winter 1980-81 in Manitoba was relatively mild and dry, with little snow cover. Small mammals presumably suffered from these conditions and also from alternative thawing and freezing in late winter and early spring. In no previous winter have we tried so often to lure birds across dry grass or roads. Great Gray Owls, practically limited to a diet of small mammals, appeared in Manitoba in small numbers in scattered localities from The Pas in northwestern Manitoba to Sprague in the extreme southeast. A concentration of 10 was reported along PR 308 from Sprague to Moose Lake (20 mi.) through January and February. Indications were tha voles were abundant along the roadside

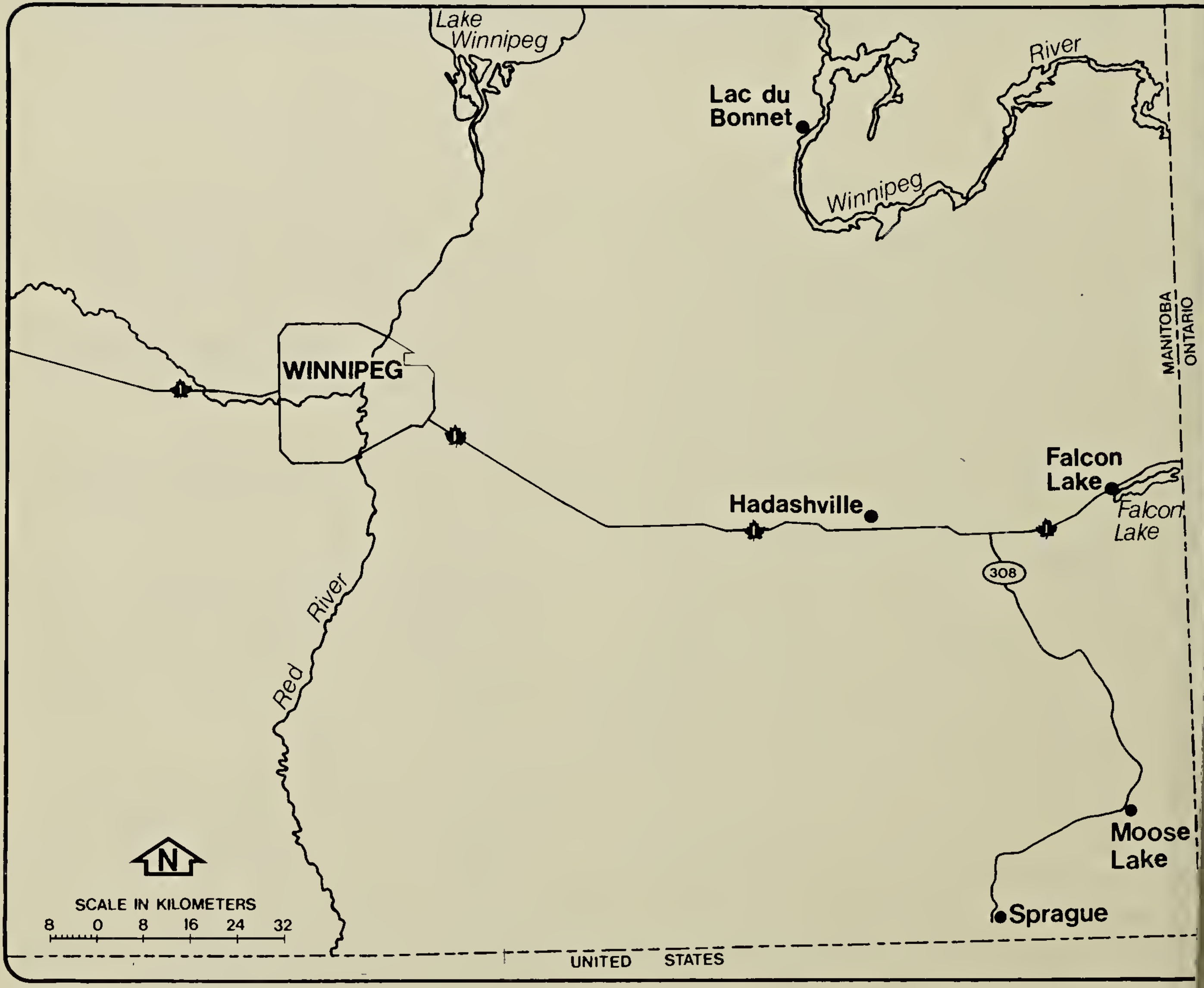

Figure 1.

rights-of-way. On 22 February we saw 10 owls along that route (Figure 1).

Beginning in January, numerous sightings were reported along the Trans-Canada Highway (PTH 1) east of Winnipeg, especially between Hadashville and Falcon Lake (28 mi.) (Figure 2). Accordingly, we spent most of our time on weekend sorties in that area. The total number of owls involved, based on the high number of accidentally killed owls, and ratio of banded to unbanded owls, was estimated as 100 to 150, probably the largest concentration yet recorded in Manitoba.

Our largest daily counts were 16 on 8 February (Prawda to Falcon Lake, about 23 mi.), and 16 on 8 March (McMunn to Falcon Lake, about 20 mi.). From one to 16 birds were reported by 20 different observers on 25 days in January; from one to 10 by seven persons on 20 days in February; from one to 12 by 18 persons on 21 days in March; and from one to nine by six persons on 10 days in April (to 19 April).

During the period from 1 January to 19 April, 50 dead Great Gray Owls were recorded (5 in January, 6 in February, 29 in March, 10 in April). All of these were victims of collisions with vehicles travelling on PTH 1 (one was found less than 2 mi. away on an adjacent road). Fifty is a minimum figure. Manitoba Highways staff, for example, admitted to having thrown three large owls onto the Hadashville garbage dump (before we contacted them) and, undoubtedly, some birds made their way into adjacent woods before succumbing to injuries. Probably predators, such as fox and coyote made off with others. Common Ravens fed voraciously on dead owls, occasionally eating most of the flesh and internal organs in a matter of minutes. Sometimes ravens carried the remains of owls some distance from the highway. It became a race between us and the ravens to retrieve birds. Whenever possible we made the rounds

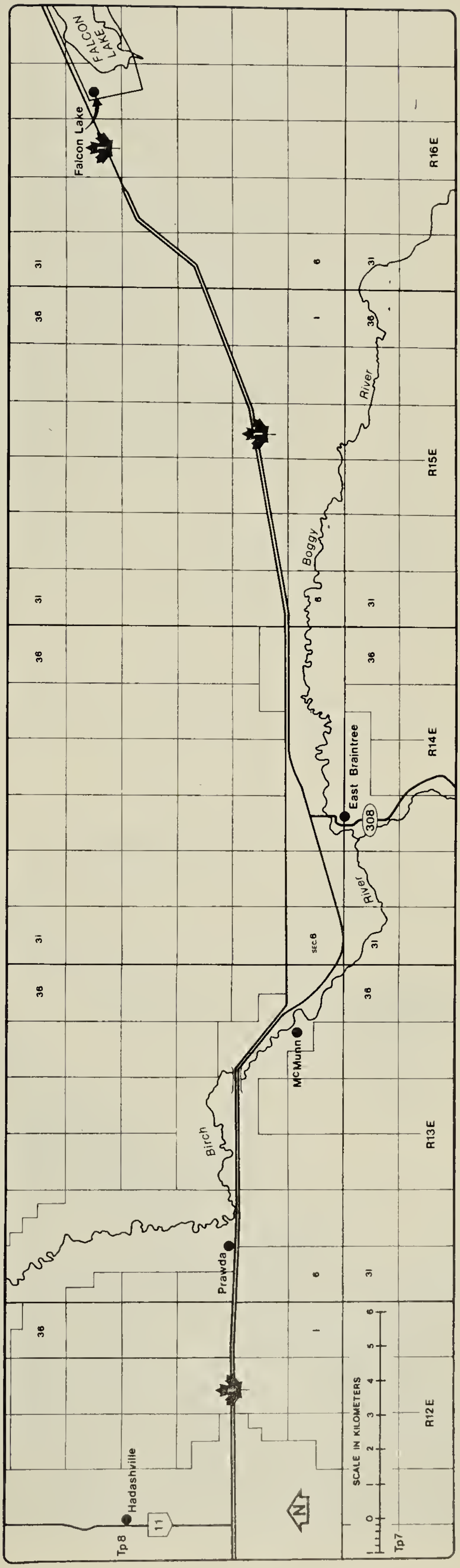

Figure 2.

of the highway early in the morning, searching for live birds and the remains of others. In three instances birds were found dead less than an hour after we had made a complete circuit of the divided highway between Hadashville and Falcon Lake. We suspect that most owls were killed in the early morning, late evening or at night, but several were killed during daylight hours. Birds lying on the highway or shoulder were easy to spot, but many were in the ditch or in grassy cover some distance from the road. The telltale signs of a victim — feathers scattered along the shoulder of the road — often were overlooked until the late evening sun backlighted strewn feathers, making them conspicuous. The feathers glowed in the low light, looking like full-blown crocuses, as beautiful as disheartening. Each time we found feathers, we walked the ditch and right-of-way, looking for an owl or its remains. Sometimes only a wing, tail or stripped carcass remained, but each remnant was retrieved and recorded.

Fortunately, a number of residents of the area picked up dead birds for us, thus ensuring the retrieval of a maximum number of owls. One person, a school teacher, drove this route twice daily, reporting the presence of live birds and picking up casualties. A few birds (or remains) were found after the thin snow cover disappeared and after shallow ditch water dried up. One Great Horned Owl and two Barred Owls were also found.

That birds were readily visible throughout the period is evident by records of sightings by at least 32 people. In addition, numerous residents were aware of the presence of owls and presumably a lot of travellers noticed them. Sometimes during the day they were unusually conspicuous, sitting upright on the highway shoulder, perching on roadsigns, or gliding and flying across the highway. We banded 24 birds in the area (20 immatures and 4 adults; 8 males and 16 females), bringing our overall total to 338.

Road-killed Great Gray Owl.

Gordon Elde

Road-killed Great Gray Owl. *Gordon Elder*

Where did all these owls come from? Band returns indicate that this occurrence of owls was comprised of local residents and birds from northern Minnesota. An adult female, banded by us on 7 June 1980, at a nest near Spruce Siding, was found dead 9 mi. west of Falcon Lake on 17 March about 14 mi. east of her nest site. Two banded young from nests in the Spruce Siding area, both banded 7 June 1980, were found. One was captured alive on 4 March, 3 mi. east of McMunn, 20 mi. east of its nest site; the other was found dead on 7 March, 36 mi. east of its nest site. Those are small distances, indeed, suggesting that winter movement was minimal. Two banded young from our nests just across the border in Minnesota were also found. Banded 1 June 1980, one bird was captured 4 January, 9 mi. west of Falcon Lake (it was found dead nearby, 25 January); the second was captured 28 March; both were about 50 mi. north of their respective nest sites. An adult female, captured by us 5 April, at the junction of PTH 1 and PR 308, had been banded as an adult by Steve Loch 10 April 1978, at Floodwood, Minnesota (pers. comm., 1981), about 223 mi. southeast, just west of Duluth.

The absence of winter (1980-81) Hawk Owl records or band returns from a heavily banded resident and winter population of Great Gray Owls to the north at Lac du Bonnet (42-50 mi. north) suggests that there was little influx into this area of northern owls.

One of the most striking aspects of this population was the high ratio of immatures (young from summer 1980) to adults. Among birds captured or found dead throughout the province at this period, 88% of 50 dead birds were immature. These are readily identified by a number of plumage characteristics. Even a few tail feathers or a single wing were sufficient to determine whether a bird was an immature or adult.[5]) Of 24 birds banded on or within 4 mi. of PTH 1, 20 were immatures.

We found the immature/adult ratio in striking contrast to our previous experience. For example, in winter 1979-80, 32 of 36 owls banded by us were adults, including 10 captured on or close to PTH 1. Note that adults seemed to predominate in the notable winter incursion of Great Gray Owls into northeastern North America in 1978-79.[7] Evidently, in summer 1980, Great Gray Owls had exceptionally good reproductive success in southern Manitoba and northern Minnesota. We had 13 active nests that summer (our highest number: 6 in Manitoba, 7 in Minnesota) and Steve Loch, in east-central Minnesota, had 17 active nests (pers. comm., 1980). A higher mortality of young birds is expected, both on the basis that there are more of them in the population (usually), and assuming that older birds may have had more experience with highway traffic or seek prey in sites away from highways.

Great Gray Owls evidently were concentrated along PTH 1 because of an abundance of voles (meadow mice) in the heavily grassed and extensive rights-of-way. In places, the grassed right-of-way extended back from the highway for as much as 100 yards. Low populations of prey species elsewhere (and competition with adults?) are presumed to have caused some of these birds to wander in search of a suitable winter hunting ground. Small mammals presumably had a tough winter in 1980-81, the sparse snow cover throughout the area making them more vulnerable to low temperatures. On the grassed rights-of-way, small mammals probably became more vulnerable as the snow melted, and as meltwater filled low-lying areas and later froze. Bog and forest habitats differed in that, generally, there was less grassy cover and more snow initially. Bogs, with an insulating layer of sphagnum moss were frozen (underneath 6 inches or so of moss) into May. Although in late April there was abundant sign that voles had been numerous earlier, we saw not a single one, and guessed that deep frost, flooding, and heavy predation (for example, Rough-legged Hawks remained in the vicinity of PTH 1 and elsewhere in southeastern Manitoba, all winter) had depleted vole populations.

Owl movements and concentrations (and nesting) are related to prey species numbers, especially for a species so limited in its prey selection as the Great Gray Owl. Probably, the availability of voles from January to mid-April was the main basis for the unusual concentration of owls in this region, although recent observations by Steve Loch (pers. commun., 1981) indicate other complicating factors, as indicated by the three Great Gray Owls still in the area 12 May. Not since the winter of 1968-69, when a presumed influx was reported along PTH 1 and elsewhere in the province has this region supported so many owls.[3] [4] (We have since learned that Great Gray Owls are resident in this area and that "influx" may be slightly misleading.[5]) The availability of extensive edges of forest with good potential perches must also have contributed to the phenomenon. It seems likely, too, that some aspect of social interaction may have been involved or, at least, resulted from the unusual concentration of birds. Interactions — friendly or aggressive — were observed on numerous occasions through the period of observation.

Another factor that must be considered as a basis for the concentration and high mortality of owls is the fact that PTH 1 consists of two double lanes, eastbound and westbound, in places separated by a wide stand of trees (up to one mi.) providing four separate edges. In general, we found more birds (and carcasses) along the south edge of the east-bound lane, though birds occurred in all areas. Owls occasionally moved from one edge to another, crossing, in effect, two highways. Moreover, traffic on PTH 1 was unusual-

Coming in to a lure. *Robert R. Taylor*

Great Gray Owl. *Robert R. Taylor*

ly heavy. We experienced considerable difficulty conducting our search and capture activities at times owing to a continual movement of large trucks and other vehicles travelling at high speed. Often, we were attempting to capture birds, working directly from the highway shoulder, trying to ignore vehicles passing behind us as close as 2 or 3 yards. Our efforts were complicated by a need to drive slowly, watching for traffic while looking for live and dead owls. There were many aggravating situations.

There has not been in Manitoba, to our knowledge, as large a concentration of Great Gray Owls or as heavy a mortality, as was experienced in late winter 1980-81. What was apparently the largest influx of Great Gray Owls on the continent occurred in winter 1978-79 in southern Ontario and the northeastern United States.[1,2,6,7] Most of these birds were far from suitable breeding habitat and many perished from accidental collision with vehicles, shooting and starvation. In the Manitoba situation, on the contrary, most victims were in good, healthy condition and many were unusually fat, right up to the end of the period. It is thus surprising that we have not yet (10 May) found any nesting birds in any of several man-made nests in the vicinity of PTH 1, or elsewhere. Possibly a scarcity of prey species at a critical period may be a limiting factor.

The unusual appearance of a large number of Great Gray Owls in southeastern Manitoba along PTH 1 in late winter 1980-81, coupled with a heavy mortality, must be considered a biological phenomenon of little known cause. Information gleaned from this occurrence of owls (twenty-one specimens which were mostly "moderately fat" to "heavy fat" prepared as scientific study skins by the senior author) somewhat softens the blow, but in our minds it will remain an astonishing event. Hopefully, it will not be repeated, for an annual mortality of this extent would pose a threat to maintenance of, at least, local populations.

Acknowledgements

We would like to thank the following persons for special assistance rendered during the course of this unusual event: Jan Bennet, Ida and Gordon Elder, Gordon Hood, Carl Feilberg and family, Murray Imrie, Harvey Lane, Mrs. Violet Manningway and family, Marg O'Reilly, Brian Blanchfield and other staff of the Manitoba Highways Department, and staff of the Department of Natural Resources, particularly Dianne Johnson and Ken Ulrich. We are indebted to Harold Tirschman, Department of Natural Resources, for overnight accommodation, and to the Wildlife Branch for travel funds. The maps were prepared by Wally Fuchs. Mrs. Terry Zarichanski and many other persons provided us with assistance and records of sightings, thus encouraging and directing our activities in the field.

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Great Gray Owl. *Robert R. Taylor*

ROCK WREN NEST AT LAKE DIEFENBAKER, SASKATCHEWAN

MARTIN K. McNICHOLL, 128 Silvergrove Hill N.W., Calgary, Alberta T3B 4Z5.

On 4 July 1980, I was approaching the eastern edge of the Qu'Appelle Dam on the Gordon McKenzie Arm of Lake Diefenbaker, when I heard a song which was only vaguely familiar. As I started to cross the dam, I saw a wren singing on top of a large boulder, and realized that the bird was a Rock Wren, a species with which I have had only a few previous encounters. Before I could confirm my tentative identification, the bird flew down among the rocks out of sight, but a few minutes later another wren sang close to me, and I was able to confirm the identification. I continued across the dam to the beach off the western edge, but on my return about one hour later, heard the song again and decided to attempt to photograph the bird. As I approached, I noticed that it was carrying food in its bill, and then saw a second bird, also with food. I sat down on a large boulder and watched the two agitated birds. It soon became clear that I was sitting close to a nest, as both birds approached repeatedly, and several times darted among nearby rocks. Finally, one disappeared under some rocks only about 1 m away from me, and I heard the distinct sounds of begging young. Investigation revealed a nest under the bank of the road on top of the dam at the end of a passage about 36 cm through rocks. I was barely able to squeeze my hand to the edge of the nest, and managed to pull out a nestling. The young bird had its eyes open, but was feeble and only the primaries showed signs of developing. These were still at the "pin feather" stage, showing no sign of opening. After photographing the nestling (Fig. 1), I replaced it. I could not reach any other young, but at least two could be heard

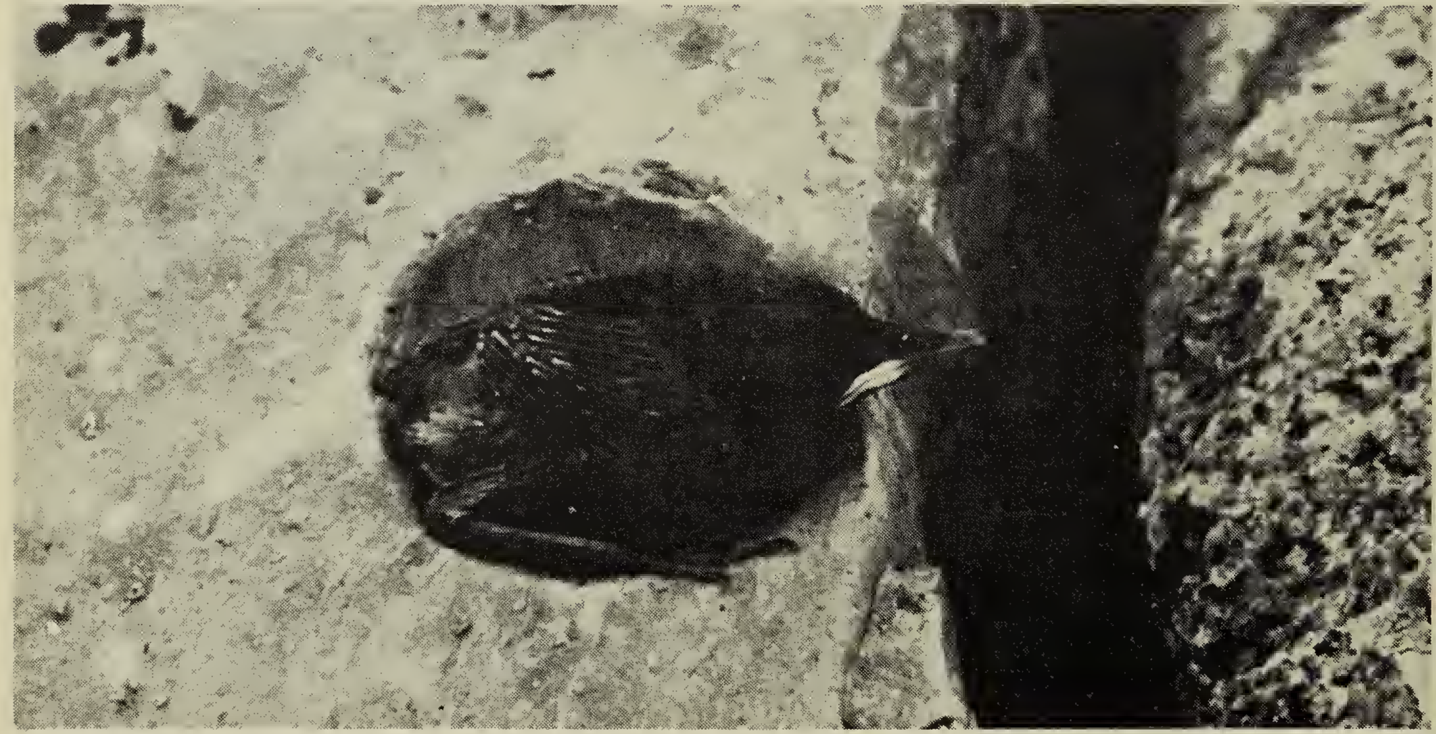

Figure 1. Rock Wren nestling.

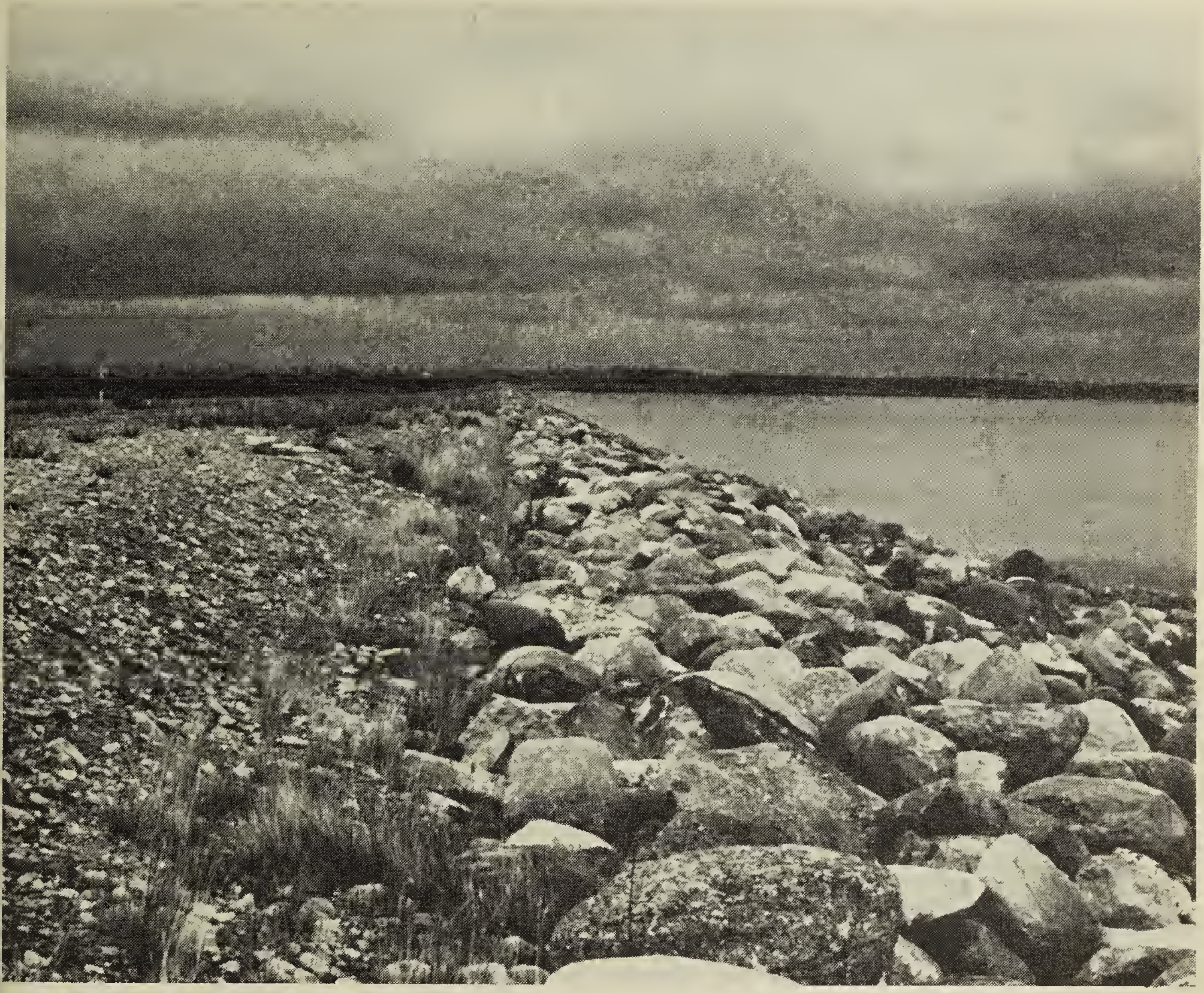

Figure 2. Qu'Appelle Dam.

begging when the adult entered the nest. Further observations revealed a second pair, again both carrying food, at the spot where I had seen the first wren, and a third singing male near the extreme eastern edge of the dam. Thus, at least two and possibly three pairs of wrens were probably breeding on the dam.

The discovery of the Rock Wren nest on the Qu'Appelle Dam adds a new nesting locality to this species' range in Saskatchewan. Renaud lists several locations of occurrence along the South Saskatchewan River, the closest positive nest being at the Matador International Biological Program Grassland, and the nearest probable nesting being the sighting of a pair with food at Riverhurst Ferry.[1] The dam site, with its multitude of boulders of varying size (Fig. 2) offers the basic habitat needs of a barren substrate on which to forage and crevices suitable for nest sites which Renaud considered important for this species in Saskatchewan.[1]

These observations were made while I was conducting bird studies in the area for Beak Consultants Ltd. on contract with Shawinigan Engineering Consultants Limited for the Saskatchewan Power Corporation. I thank N. K. Webb of Shawinigan and R. W. Nordquist of Saskatchewan Power Corporation for permission to publish this note.

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AN ASSESSMENT OF WALTER RAINE AND HIS SASKATCHEWAN RECORDS

C. STUART HOUSTON, 863 University Drive, Saskatoon, Saskatchewan. S7N 0J8

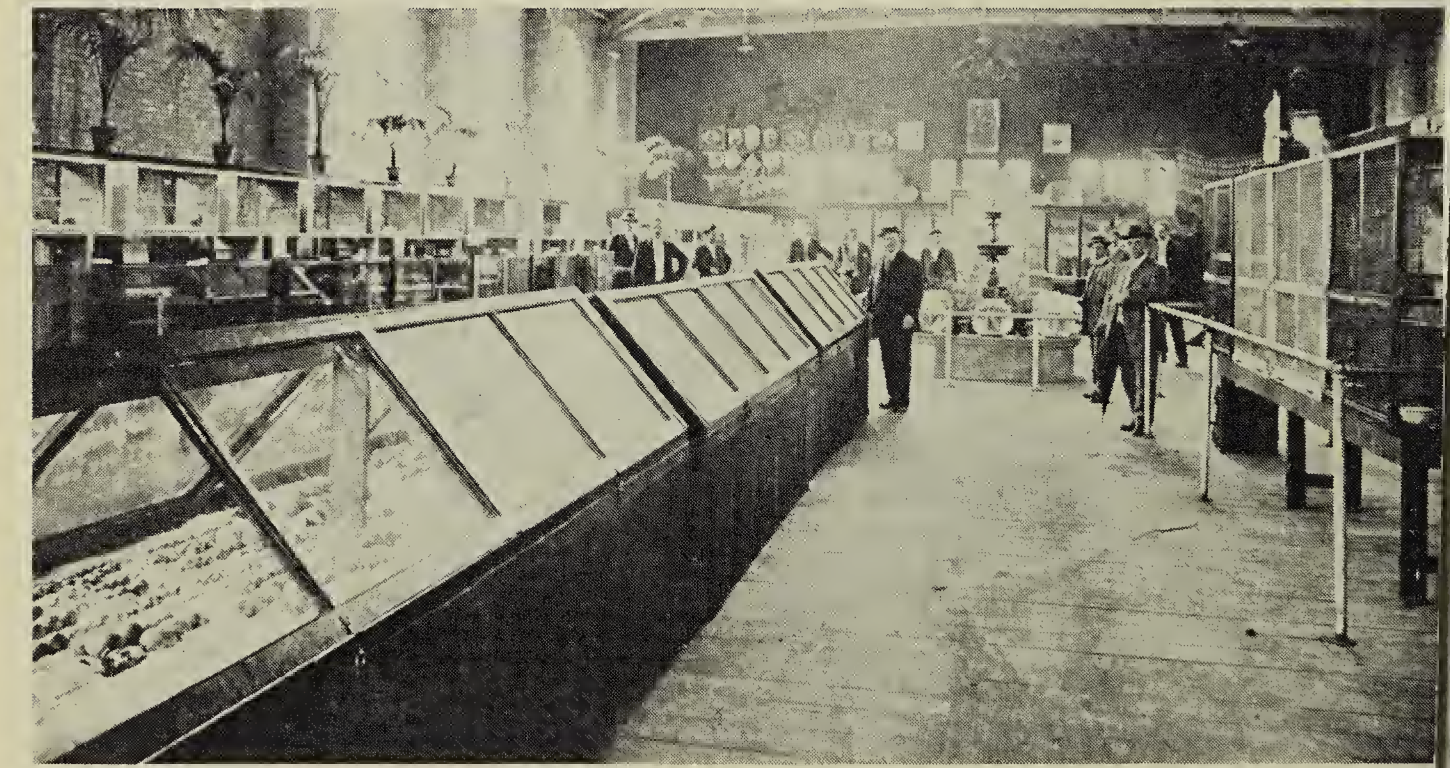
Walter Raine was born in Leeds, England, on 15 September 1861. He emigrated to Toronto, Ontario in 1884 and worked as a lithographic engraver and watercolour artist, for Hough and Harris Co. and later for Howell.

His obsessive life-long hobby and after-hours business was oology. He bought and sold birds' eggs from his home when egg collecting was a more flourishing hobby than stamp collecting and indeed he had one of the largest such businesses in North America. At one time, Raine's collection of 50,000 eggs was the largest in Canada. He won prizes for his egg displays at the Toronto fair, displaying items such as a case of 50 eggs of the Golden Eagle. Raine published accounts of his 1891 and 1893 egg-collecting trips to Saskatchewan,[14] [15] his 1901 records were quoted by John Macoun[10] [11] [12] and his 1901 photographs were used by Reed.[23]

My Interest in Raine:

In my 35 years of study of the history of Saskatchewan ornithology, by far the most perplexing problem has been whether to use, or how to use, the records of Walter Raine. Raine certainly made some serious errors in identification, especially in his early years, but I have never been convinced that these justified wholesale rejection of all of his records.

Extreme views have been held. The late James L. Baillie, Jr., of the Royal Ontario Museum of Zoology advised me on 14 August 1947 that any record that had passed through the hands of Walter Raine should be rejected. Baillie in turn had received the following advice regarding Raine in a letter from P. A.



Walter Raine with his display at the Toronto fair (3 large cases of eggs).

Golden Eagle eggs — display of 50 (about 1910).

Taverner on 19 December 1934:

> "I think we had better disregard everything he ever said or did unless supported by contributory evidence. Have no doubt that the majority of his records are perfectly good but if they are in agreement with our understanding they add nothing to our knowledge and if they are contrary they cannot be relied upon. Either way they are usless. Too bad."

At that time I showed Baillie's letter to Frank Baines, the first Yorkton area naturalist, who vehemently defended Raine's integrity and reported from his personal experience that "Walter Raine was a perfect English gentleman."

Fred and Frank Baines were lads of eight and five years of age when their parents settled in 1883 along the southeast shore of Crescent Lake, 10 miles west of the later site of Saltcoats, Saskatchewan. From 1895 until the turn of the century the Baines boys had been collectors for Walter Raine. Eggs were blown before shipment to Toronto and often the parent bird was collected for certain identification, with Frank making the study skin using arsenic paste. The boys were intensely interested in wildlife and times were hard. They received a little pocket money for their efforts, usually ten cents per skin and a few cents for each egg.[6]

In June 1901, Walter Raine spent at least eight days at Crescent Lake, using the Baines farm as his base. During this visit, Raine obtained beautiful photographs of nests of the Horned Grebe, Sandhill Crane, Marbled Godwit and Upland Sandpiper, which were published in Reed's book in 1904.[23] John Macoun quoted a number of Raine's sightings made during this visit, when Raine found "close upon thirty nests" of the Swainson's Hawk, each with three eggs.[11] [12] [13] Between 2 and 5 June 1901, Raine collected at least four sets of eggs of the Merlin, three of which are now in the Field Museum in Chicago and one in the Museum of Vertebrate Zoology at Berkeley, California.[7] Since this was Raine's only known intensive study area in "northern Assiniboia", there can be little doubt that Crescent Lake was also the locality where Raine that year found "about a dozen nests" of the Ferruginous Hawk.

CONTACT WITH RAINE'S FAMILY:

In September 1977, when I had an hour to spare in the Toronto airport en route from Boston, and after scanning 16 Raine listings in the Toronto telephone directory, I had the temerity to telephone Mrs. Stanley Raine. I had remembered a congratulatory note in the *Oologist* in 1927 which noted the marriage of Stanley Raine, son and assistant to Walter Raine, to Nermaye Morrison, in Toronto on 2 October 1926. Imagine my surprise when the lady I phoned was indeed the widow of Stanley Raine. Before his death in 1947, Stanley Raine had an engraving business, and both designed and engraved the "wings" that were pinned on the chest of every Canadian airman during the Second World War.

Mrs. Stanley Raine suggested that her niece, Mrs. Marjorie Warren, would be the most useful contact for further information. I next telephoned Mrs. Warren and was invited to spend an evening at her home during my next visit to Toronto the following month. There I was also able to visit with two of Raine's daughters, Mrs. Ada Heppinstall and Mrs. Alice Stewart, both aunts of Mrs. Warren.

The family supplied biographical information and the photographs used in this article. They loaned me the historic hand-written letter of 30 July 1904 from Evan Thomson of Red Lodge, Alberta, telling Raine of the first three authentic nests ever found of the Solitary Sandpiper. Thomson, one of Raine's collectors, had sent Raine one set of Solitary Sandpiper eggs from a previous year's nest of the American Robin in 1903, but Raine did not publish this momentous information until 1904 when Thomson collected another two sets of eggs from nests of the blackbird and Cedar Waxwing, and a specimen of the adult female Solitary Sandpiper to corrobarate the identification beyond any doubt.[21] [22] When he published his article in the *Ottawa Naturalist* in October

The Raine family.

1904, Raine took some liberties in improving Thomson's grammar and punctuation, even though he gave the contents within quotation marks.[21]

The family also loaned me Jourdain's reprint from *Ibis* of 1907,[8] in which Raine's drawings of four eggs of the Solitary Sandpiper were reproduced. The accompanying dates indicated that Thomson had collected three additional sets on 16 June 1905, 6 June 1906, and 15 June 1906. These eggs had been chosen from 27 eggs of the Solitary Sandpiper that had been measured by Raine, possibly six full sets of four eggs each, and another of three eggs. These three additional Alberta nest records have not been mentioned by most writers since, perhaps because of unfamiliarity with Jourdain's article, and perhaps in part because of coincidental details and dates between the original 1903 nest and one of the 1906 nests.

Mrs. Warren also loaned me the hand-written manuscript of a paper that Walter Raine had presented to the Leeds Naturalist Club in August 1878, the month before his 17th birthday, and six years before he emigrated to Ontario.

Walter Raine's Work

IN THE LEEDS AREA, 1877-1883:

The handwritten copy of Raine's talk, 14 pages in length when typed, was a creditable effort for a keen 16-year-old to present to a group of distinguished adults. Raine gave interesting details of his personal observations of 86 species observed within a 10-mile walking distance of Leeds, including the neighbourhoods of Adel, Eccup, Harewood, Roundhay and Shadwell. Raine estimated that 65 species nested regularly; that season he had found 1074 eggs but had taken "not more than 100", since he already had most of the others represented in his collection.

To assess the credibility of Raine's paper, I wrote to K. G. Spencer of Burnley, Lancashire and to John Govett of Trowbridge, Wiltshire, both graduates of Leeds University, and to Arthur Gilpin of Leeds. All three were most helpful, with Gilpin offering detailed comments on the changes in birdlife that have resulted in the more than 100 years since, as most of Raine's old haunts have become urbanized. All three felt that Raine's identifications "rang true", but that there were discrepancies in details concerning a few nests.

Adrian Norris, Assistant Keeper, Natural History, Leeds City Museum, kindly provided me with electrostatic copies of the 17 notes published by Raine in *The Naturalist* between 1878 and 1882. One of these dealt with Raine's sighting of a polecat, but the other 16 dealt with sightings of rare birds or interesting nests. Norris also copied from the Leeds Archives the appropriate item from the *Yorkshire Post and Leeds Mercury* which reported the 20 August 1878 meeting of the Leeds Naturalist Club, with Vice-President William Howgate in the chair:

> "Mr. Walter Raine then read a series of "Notes on the Birds of the Leeds District," illustrated by specimens. Specimens (all being eggs) were also shown by W. H. Hay."

AT MOOSE JAW, 1891:

Raine took a holiday in 1891 to collect birds' eggs in western Canada. He was so enthused by what he saw and collected that he spent the winter writing his observations and making his own engravings to illustrate them. He rushed his book, *Bird Nesting in Northwest Canada*, into print by the next spring and said in his preface: "The book is also intended to be a guide to sportsmen and anglers who intend visiting the territory, and it may even be of some use to intending settlers."[14]

Raine had arrived 3 June at Port Arthur, Ontario, where Peregrine Falcons had nested on a cliff on nearby Pie Island. On 7 and 8 June he collected at Moose Jaw, "a small market town with a population of 600." Raine returned to Moose Jaw for another day, 15 June, on his return trip. Altogether Raine described 39 species he had seen at Moose Jaw, noting the McCown's Longspur as the second commonest species after the "buffalo-bird," the then current name for what is now the cowbird, on the grassy upland plains. The Upland Sandpiper was "exceedingly abundant on the prairies and their eggs are often gathered for food." Raine did not see a single Black-billed Magpie, but was told that they were present in some aspen bluffs north of Regina.

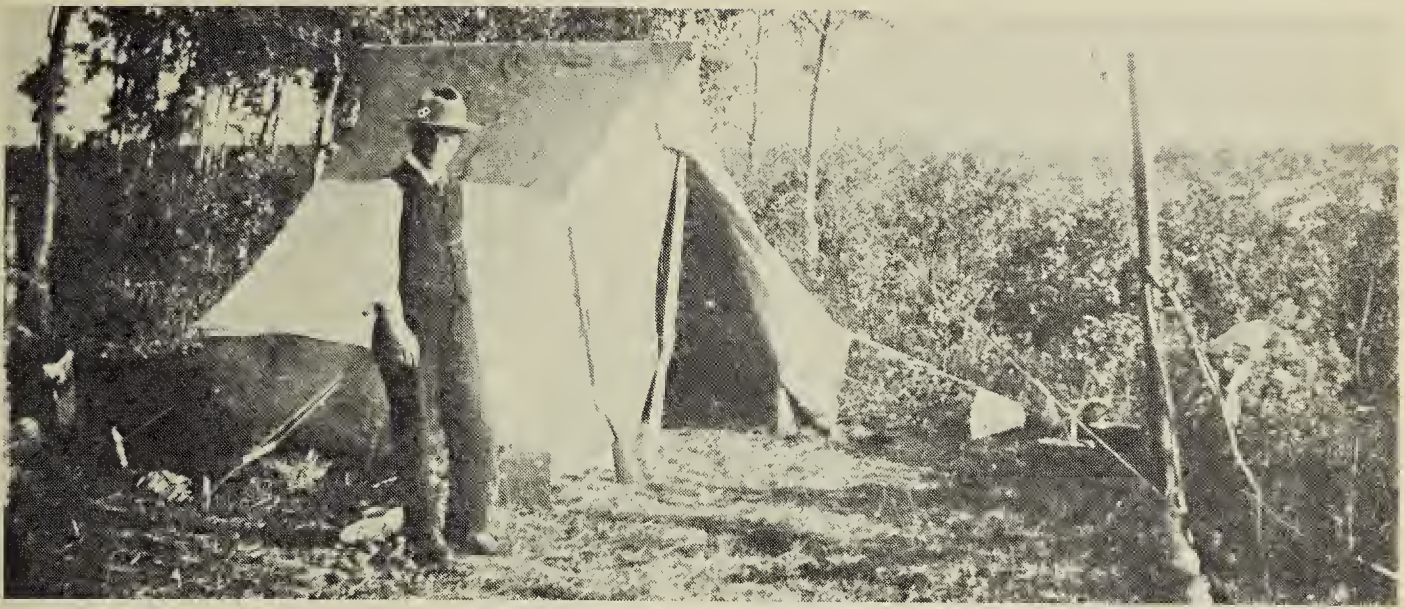
At Moose Jaw, Raine reported nests of the American Bittern, Mallard, Blue-winged Teal, American Wigeon, Northern Shoveler, Swainson's Hawk, Ferruginous Hawk (with three young), Sharp-tailed Grouse, Sora, American Coot, Killdeer, Common Snipe, Long-billed Curlew, Upland Sandpiper, Spotted Sandpiper, Willet, Wilson's Phalarope, Eastern Kingbird (without eggs as yet), Catbird, American Robin, Common Grackle, and Rufous-sided Towhee. He found a Prairie Falcon sitting on a pile of sticks on a ledge in a small cliff along Moose Jaw Creek, without evidence of active nesting. His nest of McCown's Longspur was probably identified correctly, and indeed the McCown's Longspur skins that Raine presented to the Museum of the Geological Survey in Ottawa, the forerunner of the National Museum, were the first for their collection. Raine's supposed nest of the Baird's Sparrow, identified later from the size and appearance of the eggs is much more questionable, though the species was undoubtedly common there before most of the grassland was ploughed. The Red-headed Woodpecker nest with seven eggs, in a hollowed post that stood in water, was a species well known to Raine in Toronto and, if accepted, would be by 89 years the first fully documented nest of this species within the present boundaries of Saskatchewan. Eggs of this species were not in great demand, and Raine should not have been victim of the common error by less knowledgeable observers of giving the name to males of other woodpecker species with a small red cap.

Raine tells us that one of his collectors that year (1891) had taken two sets of five and two eggs on 7 April from Trumpeter Swan nests at Buffalo Pound Lake north of Moose Jaw. The egg measurements given are appropriate and these represent our only documented historic records for Saskatchewan outside of the Cypress Hills. The "Greater Scaup" with young was almost certainly a Lesser Scaup, and the "Rusty Blackbird" nests were equally certainly those of the Brewer's Blackbird. A supposed nest of the Lesser Yellowlegs was almost certainly misidentified.

Raine's companion told of seeing flocks of "nearly a hundred" Eskimo Curlews early in May that year, and of shooting "quite a number" before they moved on north in the second week of May. Although tantalizing, this record cannot be given full credence because the numbers reported seem rather high even for 1891, and because the identification of shorebirds by amateurs has always been fraught with difficulty.

AT RUSH LAKE, 1891:

Raine moved on almost 100 mi. farther west and got off the train at Rush Lake station, where he stayed six days from 9 through 14 June.[14] Between Moose Jaw and Rush Lake there were "no trees, . . . not even a bush." In 1891, the railway still pursued its original course around the north end of the lake and the little station was along Rushlake Creek, about 2 mi. west of the lake. Later, the railway was rebuilt through the lake, so that the present village of Rush Lake is a mile south of where it was at the time of Raine's visits.



Raine on a collecting trip.

Macdonald, the station agent, told Raine about 50 pairs of White Pelicans that were nesting on a stony sandbar at the eastern extremity of Rush Lake, and Raine could see their white outlines from the distance, but was told that their eggs had already hatched. Here again, the McCown's Longspur was the commonest small bird on the elevated prairies and Raine specifically commented on the absence of the Chestnut-collared Longspur (its later increase may have coincided with heavier grazing and shorter grass).

Raine reported 44 species during his stay. Near the station, he collected egg sets of the Pintail, American Wigeon, Northern Shoveler, Canvasback, Killdeer and Short-eared Owl. On 10 June Raine made a trip 5 mi. north to Handsome Lake, where 25 pairs of Avocets were nesting on a stony sandbar on the east side of the lake; Raine collected only the newly laid eggs, sucking their contents to relieve his thirst on a hot day. He collected a clutch of five eggs from a Canada Goose. Macdonald in early May had collected two clutches of Canada Goose eggs from the same site, and placed them under a domestic hen at the station house, anticipating some fine suppers later in the year.

At the northern end of Handsome Lake, Raine made a number of obvious misidentifications. He collected a Northern Phalarope in migration and found two phalarope nests nearby; he incorrectly assumed that one of these nests was that of a Northern Phalarope, although he was surprised to find it breeding so far south.

He and his companion then waded to two small sandy islands, where terns and gulls were nesting in small hollows in the sand. As usual, there were also non-nesting species roosting at the tip of the island; Raine shot three gulls with black heads, identified them as Bonaparte's Gulls, and assumed that they were one of the nesting species.

On 11 June, Mr. Spalding, manager of the Canadian Agricultural Company farm to the west, took Raine 10 mi. north to a 4-mi.-long lake "sheltered between the hills." This very likely was Prairie View Lake, which was originally 4 mi. long, in an appropriate location, running east and west, but only ever a small fraction of the width of 2 mi. stated by Raine. On the way, Raine collected a nest with one egg of what he assumed was the Pallid Horned Lark, the form to be expected in the "Interior of British America" according to the First A.O.U. Check-List of 1885. Raine that winter sent the specimen to Jonathan Dwight, Jr., who pointed out that it was the Desert Horned Lark. Oologists of those times were anxious to collect a set of each *subspecies* listed in the Check-List!

Raine collected a Least Sandpiper, a Buff-breasted Sandpiper and another Northern Phalarope and assumed from the time of year that they should be nesting, though, not surprisingly, he could not find their nests. On a sandbar with gull eggs of two sizes, he assumed the nests were Herring and Bonaparte Gull nests, especially when he again shot a "fine adult Bonaparte's Gull" for confirmation. The nests were probably those of California and Ring-billed Gulls.

In a hole in the 20-foot bank of the lake, was a Bufflehead nest with 12 eggs, an unusual but plausible record. Raine mentioned that wherever trees were present, the Bufflehead nests in hollow trees, as at Oak Lake, Manitoba. Raine next found nests of the Long-billed Curlew, Spotted Sandpiper, Willet, and Wilson's Phalarope.

Raine saw Turkey Vultures daily and sketched a supposed nest of this species on the ground, though he made no mention in his text of personally finding such a nest. Raine's Indian guide, John, said that Turkey Vultures had been more numerous in his boyhood, in the days of the buffalo, and that up to 20 or 30 would collect at a buffalo carcass.

On 12 June, John and Raine spent an hour digging down to the seven eggs of a Burrowing Owl, following the burrow vertically for three feet and then horizontally for another four feet. Another day they dug out a coyote den. During his last three days at Rush Lake, Raine reported nests of the Gadwall, Pintail, American Green-winged Teal, Marsh Hawk, Sharp-tailed Grouse, Piping Plover (which he misidentified as the Semipalmated Plover), Long-billed Curlew, Spotted Sandpiper, Willet, Wilson's Phalarope, Short-eared Owl, Sprague's Pipit, Vesper Sparrow, and McCown's Longspur.

Raine described the Sprague's Pipit as rare and local, and mentioned that he had received one nest from Crescent Lake, no doubt collected by the Baines brothers, on 31 May 1890. Another of his collectors, 15 mi. north of Regina, had told Raine that the pipit could be heard "almost anytime early in June, singing and soaring in the sky." Although this species must have been singing above him, almost out of sight, most of the time, Raine was expecting a song similar to that of the European Skylark and, like most observers of that time, failed to learn to identify the pipit by its song. He did not know the song of the Baird's Sparrow, either, and thought it also "rare and local."

Raine also relayed observations at other times of the year made by Macdonald, the station agent, who was a keen hunter and nest-finder. Macdonald informed Raine that "100 geese and ducks a day is considered only a fair bag for one gun, and anyone very enthusiastic might kill three times this number." On 13 June, Macdonald saw a single Whooping Crane flying towards the lake, but Raine missed seeing it.

AT RUSH LAKE, 1893:

In 1893, Raine returned to Rush Lake for an 8-day visit, from 25 May to 1 June, and again stopped off on his return trip east on 15 and 16 June. His account was published in nine consecutive issues of *Nidiologist*.[16]

En route, he stopped for 3 days at Oak Lake, Manitoba, where he visited a Whooping Crane nest from which the two eggs had been taken 4 days earlier; Raine located the nearby collector and purchased the remaining unbroken egg for a dollar.

At Rush Lake in May, Raine collected eggs of the Canada Goose, Gadwall, Pintail, Northern Shoveler, Scaup (two sets correctly identified as Lesser Scaup and one with slightly larger eggs identified as the Greater Scaup), Sora, American Avocet, Wilson's Phalarope, Ring-billed Gull (now correctly identified for the first time, though the California Gull he still called the Herring Gull), Common Tern (still misidentified as Forster's Tern), Say's Phoebe, Barn Swallow and Cliff Swallow (the last three species now nesting in the stables and cow-sheds), Horned Lark, Western Meadowlark, Red-winged Blackbird, Baird's Sparrow, McCown's Longspur and, for the first time, Chestnut-collared Longspur.

Raine noted a flock of a thousand Semipalmated Sandpipers and on 1 June shot a Red-breasted Nuthatch that he speculated was nesting in a hole in the barn roof. From Jim Sanderson, the half-breed "Government scout," he learned that Sanderson had found a Trumpeter Swan nest with four eggs in 1885 on an island in Sounding Lake (then in the territory of Saskatchewan, but since 1905 in the province of Alberta).

After visiting Crane Lake, Calgary and Banff, Raine stopped off for two days at Rush Lake on 15 and 16 June. He saw seven Turkey Vultures and a Common Raven feeding on the carcass of a horse. He again visited Handsome Lake which he called "Avocet Lake" and found two Long-billed Dowitchers on the island; thinking that this species, too, should be resident he searched in vain for their nest. In addition to the 80 pairs of Horned (?) Grebes now nesting on the lake, he found nests of Gadwall, Pintail, Redhead, Ring-necked Duck (?-CSH), Lesser Scaup, American Avocet, Wilson's Phalarope, Ring-billed Gull, Common Tern (still called Forster's), and Say's Phoebe.

AT CRANE LAKE, 1893:

From 2 to 6 June, Raine stayed at the "76" ranch, also operated by the Canadian Agricultural Company, near the Crane Lake station.[16] He spent hours following a pair of Solitary Sandpipers, hoping to find their nest, not realizing that they were merely in migration. He made a trip 4 miles north to the lake of the same name but, although large numbers of White Pelicans were present on the two islands, they apparently had been flooded out that year. He journeyed up Skull Creek, saw a Bald Eagle, and found two nests of the Ferruginous Hawk, one with one downy young, and one with four eggs, as well as Tree Swallows nesting in hollow trees. Other nests reported were those of the Canada Goose, Pintail, American Green-winged Teal, American Wigeon, Canvasback, Common Merganser, Sora, Upland Sandpiper, Wilson's Phalarope, Western Meadowlark, Yellow-headed Blackbird, Savannah Sparrow, Baird's Sparrow and Clay-colored Sparrow.

AT REABURN, MANITOBA, 1893:

On 21 June 1893 at Reaburn, Manitoba on his return trip from Rush Lake,[16] Raine and his assistant Fred Dippie collected the first authenticated nest and eggs of the Le Conte's Sparrow, confirmed by collection of the adult as it flew from the nest,[5] [15] Later in Toronto, Raine and Dippie showed their summer specimens to Raine's "friend and neighbour", Ernest Thompson (Seton). Thompson identified a sparrow that Dippie had collected with 2 eggs at Reaburn on 12 June as that of a Nelson's Sharp-tailed Sparrow, also considered a first for this subspecies.[15] The eggs and study skins for both the Le Conte's and Nelson's Sparrows were deposited in the United States National Museum in Washington.

Attacks on Raine's credibility

Raine's relationships with H. R. Taylor, the editor of *Nidiologist*, and with his assistant editor, Dr. R. W. Shufeldt, suddenly soured. Raine had been one of their leading contributors, and had

Raines at their home, 50 Waverley St., Toronto.

brought in more new subscriptions than anyone else in a contest in March 1894. Taylor's editorial column in May 1895 accused Raine of taking "singles" from a number of Western Grebe nests and then selling them as "sets" — which Taylor considered "unscrupulous and unworthy of an honest collector."[27]

In July 1896, Taylor offered the following snide comment:

> "Walter Raine, of Toronto, is announced to have gone to England to dispose of a large collection of eggs. He will be sure to sell."

Taylor then issued the annual index for volume 2, omitting page numbers for articles by his chief contributor, Walter Raine.

Meanwhile, Major Charles E. Bendire wrote to the *Nidiologist* to criticize Raine's claim that he had the first set of eggs of the Belted Piping Plover.[17] Bendire pointed out that the Smithsonian had a set of Piping Plover eggs with parent, "taken by Mr. Donald Gunn of the Hudson Bay Co., . . . on the shores of Lake Winnipeg as early as 1862."[4]

Next, under the heading of "Raineism" was a two-page attack on Raine by Dr. R. W. Shufeldt, a medical doctor and a prolific writer of 1565 papers. Shufeldt atacked Raine for selling eggs of the Black Scoter from Greenland, when Hagerup's *The Birds of Greenland* failed to even list that species.[25] Shufeldt also claimed that eggs sold as those of the Little Brown Crane, from Crescent Lake, Assiniboia, and Duck Lake, Saskatchewan, were in fact substituted cheaper eggs of the Demoiselle Crane from Europe.[26] Furthermore, Shufeldt claimed that the Little Brown Crane did not breed at Duck Lake or Crescent Lake.[25] (We now know that Saskatchewan specimens are intermediate;[30] they were described as a new subspecies, *Grus canadensis rowani*, by Walkinshaw in 1965;[31] the measurements of the eggs made by Shufeldt differed from those given by Raine in his book, but would still fal within the known range of egg sizes fo such intermediate individuals.)

Raine replied by offering to bet $200 to Taylor or Shufeldt's $100 that his eggs were authentic and that cranes did indeed nest at those localities.[18]

Next, John Macoun wrote to the

Nidiologist, taking full responsibility for the supposed "sets" of Western Grebe eggs.[13] Macoun admitted that he "just waded around and collected nearly 100 of the freshest eggs, carried them to my hut and numbered them in sets. . . . if there is any fraud in the matter I was the guilty party and not Mr. Raine. . . . I have never known anything against Mr. Raine's character in any sense whatever and many of our rare eggs have been obtained from him."

Raine wrote to complain that since the charges, "my sales of birds' eggs and skins have decreased about one-half."[13] Raine noted that Oliver Spanner & Co. had even smaller crane eggs from Alberta, that had not passed through his hands.[13] Edrick P. Rippon, to whom the Baines brothers had originally sent crane eggs and skins from Crescent Lake, wrote in defense of Raine, telling how he had himself received the two controversial sets from Crescent Lake and sold them to Raine, and that the handwriting Shufeldt claimed was Raine's was in fact Rippon's.[24] Editor Taylor closed this correspondence by accepting Raine's thinly veiled challenge to a duel[19] — and chose the eggs of *Grus virgo*, the Demoiselle Crane, at 10 paces.[28]

Raine's defense

Raine was not deserted by his friends. R. M. Barnes,[9] who became editor of *Oologist*, was a staunch supporter. John Macoun used Raine's records in his *Catalogue of Canadian Birds*, issued in three parts between 1900 and 1904,[11] [12] [13] and Reed's *North American Birds Eggs* in 1904 used Raine records and nine full-page Raine photographs.[23]

Barnes began the October 1910 issue of *Oologist* with a full-page photo of Mr. and Mrs. Walter Raine, followed on the next page by an effusive eulogy:

> "He is one of the best known oologists in all North America and has placed in various collections, perhaps more eggs than any other dealer in North America. The years he has been in the business he has established a reputation for fairness that anyone may well envy. Specimens from him are to be found in almost every leading collection in North America. We have done business with Mr. Raine for practically twenty years and have just recently closed up with him the largest single exchange of specimens we have ever made, aggregating on both sides about 1000 separate specimens."[2]

It was Raine's expertise that in 1916 corrected O. B. Vandercock's claim to an unusually large clutch of the Barred Owl; Raine pointed out gracefully that the description fitted better the eggs of the Hooded Merganser.[29] It was Raine's expertise that in 1917 exposed the fraudulent egg selling practices of one Joseph Honacker of the Spokane Public Museum.[3] When subscribers of the *Oologist* were asked in 1919 to vote for the three most knowledgeable and reliable oologists in Canada, Walter Raine led the list, followed by R. W. Tufts, Edward Arnold, and ten others.[1] Raine thus maintained the respect of his own fraternity, the oologists.

SURVEY AT RUSH LAKE, 1977

I felt it would be useful to retrace Raine's steps of 1891 and 1893. John Handbidge, my wife, Mary, and I spent 4 and 5 June 1977 in the Rush Lake area, chiefly at the lakes visited by Raine. Handsome Lake fitted Raine's description exactly, but no longer were there nesting gulls or terns. There were 12 Horned Grebes and 80 Eared Grebes on the lake, suggesting that Raine's 80 nesting pairs of grebes were Eared, not Horned. The Chestnut-collared Longspur was much more common than McCown's on what heavily grazed grassland remained, associated with Sprague's Pipits and Baird's and Vesper Sparrows.

On an alkali lake to the east there were 9 adult Canada Geese with 26 young, a recent reestablishment after years of absence, 8 Western Grebes, and both Least and Semipalmated Sandpipers. At Prairie View Lake we saw 1 Black Tern, 2 Common Terns, 3 Franklin's Gulls and an American Golden Plover. All three lakes had nests with eggs of Avocet and Canada Goose. The Horned Lark was doing well, as were the Eastern Kingbird, Barn Swallow, Western Meadowlark, Brewer's Blackbird and Savannah Sparrow.

New arrivals to the Rush Lake area since Raine's day included the Black-crowned Night Heron (with five nests at Handsome Lake), Mourning Dove, Western Kingbird, Black-billed Magpie and Lark Bunting, and the introduced species, the Rock Dove, Common Starling and House Sparrow. The Red-tailed Hawk probably also belongs in this list. We also saw Swainson's, Marsh, and Ferruginous Hawks. Numbers of the Common Crow had increased greatly from the early days, but the Turkey Vulture and Common Raven were not to be seen. The once-large lake for which the village of Rush Lake is named, was long ago drained completely by a series of east-west ditches, converting it to cultivated land.

SURVEY AT CRANE LAKE, 1980

Mary and I spent 5 and 6 June 1980 surveying Crane Lake and its surroundings. The lake was not at all comparable to Raine's time, for it was almost completely dry, apart from a remnant of perhaps a hundred acres of water in the northeast corner of the old lakebed.

Conclusions

Raine's own errors of identification were certainly understandable. Contemporaries, including John Macoun, made similar mistakes. In their defense, the field glasses of the day were inadequate, there was almost nothing to help identify bird songs, and many species could be identified only from keying out a specimen in the hand. Raine can be excused for thinking that species present in mid-June should be nesting. Standard reference books, even that of Reed more than a decade later, gave erroneous measurements for eggs such as those of the prairie gulls.

Raine's writings still provide interest and pleasure and much worthwhile information. He told a story well, and has left us a vivid record of early visits to productive marshes by an egg collector. There is now a feeling of revulsion towards the "egg-collecting fever" of a century ago, but it must be viewed from a historical perspective. In fact, taken in conjunction with the list of egg prices published in *Oologist* in 1890,[9] we can see that Raine's trips were profitable in a financial sense.

The lists shows little recompense for collecting and "blowing" the egg of a robin, catbird or Red-winged Blackbird for a retail sale price of 2¢, but a single egg of the Yellow-headed Blackbird or Tree Swallow was listed at 5¢, Sora and American Coot eggs were 10¢, Western Meadowlark 12¢, Vesper Sparrow,

Mr. and Mrs. Walter Raine (1910).

Forster's Tern and Spotted Sandpiper 15¢, Horned Lark 20¢, Upland Sandpiper, Willet and Clay-colored Sparrow 40¢, and Chestnut-collared Longspur, Common Snipe and American Avocet 75¢. Eggs of birds of prey and gamebirds seemed to bring higher prices, an evidence of greater demand. One wonders, though, at the work that went into digging out a Burrowing Owl nest when these eggs were rated at 25¢, compared to 75¢ for Swainson's Hawk and Sharp-tailed Grouse, $1.25 for Short-eared Owl, and $2.00 for a Ferruginous Hawk or Whooping Crane egg. Even common ducks were priced relatively high with Mallard at 20¢, Blue-winged Teal 25¢, Northern Shoveler and Gadwall 50¢, American Wigeon 75¢, Canada Goose $1.00 and Canvasback $1.25. A full clutch of Canvasback eggs would alone yield more than most men could earn in two days' labour in the city.

In Raine's case, oology was a part-time business as well as a hobby. As a business man, he compounded his errors by selling some incorrectly identified eggs to collectors, including many museums. In addition to errors in his own collecting, as a dealer he purchased eggs from enthusiastic but inexperienced and often youthful collectors in remote areas, and was sometimes too credulous in accepting their identifications. Probably few of his collectors maintained the high standard of accuracy generally evident from specimens collected at Crescent Lake by the Baines brothers.

Although Raine held the confidence of most oologists as he quickly became more knowledgeable, it is nevertheless true that he lost the confidence of many scientific ornithologists. This was probably more because his integrity had once been questioned, than because of the fairly obvious errors of identification he made when he first visited new territory with unfamiliar birds.

Ross D. James of the Royal Ontario Museum, in a letter of 16 January 1981, told me that although the ROM had purchased 1491 sets of eggs and nests, 500 taken in Canada, from Raine in April 1926, and although on 9 June 1948 Mrs. Stanley F. Raine donated three cabinets and three boxes of eggs and nests, all sets bearing Raine labels were later discarded. Certain other museums may have done the same, following the philosophy expressed by Taverner at the beginning of this article.

Raine unquestionably should not have rushed into print prematurely, documenting his ignorance of the birds in an unfamiliar area. Fortunately, however, most of his errors are obvious, especially to one who has studied the records of Raine's contemporaries and has visited the area where the records were made. I have concluded that Raine's Saskatchewan observations must not be rejected outright. As with any record from that period, each observation should be assessed individually. With appropriate caution, and with a number of substitutions as detailed earlier in this article, a great many useful items of historic interest

Portrait of Walter Raine — about 1893.

can thus be salvaged and accepted with reasonable confidence.

Epilogue

Since Raine's visits in the early 1890's, most of our native grassland has been ploughed, with a decrease in the numbers of McCown's Longspurs, Baird's Sparrows, Sprague's Pipits, Upland Sandpipers and Long-billed Curlews, to name a few obvious examples. With continuing drainage and diversion of water, we also have fewer sloughs and ponds, and will never again see myriads of waterfowl that were present when the first settlers arrived. Even at the time of Raine's visit, the Trumpeter Swan, Whooping Crane and Sandhill Crane were fast diminishing as nesting birds, and now that the buffalo had gone, the Turkey Vulture and Common Raven were decreasing on the plains.

We can only hope that present intense financial pressures on all Saskatchewan farmers, accelerating the ploughing of further marginal land and the drainage of wetlands, can somehow be checked so that our grassland and marshland birds can be enjoyed for at least another 90 years.

Acknowledgements

I wish to thank Ross D. James, Associate Curator, Department of Ornithology, Royal Ontario Museum, Toronto, who searched their collection for Raine egg data, and provided electrostatic copies of correspondence between P. A. Taverner and James L. Baillie, Jr.; Adrian Norris, Assistant Keeper, Natural History, Leeds City Museum, who provided electrostatic copies of Raine's 17 notes in *The Naturalist;* K. G. Spencer, John Govett and Arthur Gilpin, who provided assessments of Raine's paper to the Leeds Naturalist Club in 1878; and especially to Mrs. Rupert Warren of Toronto, Raine's granddaughter, who provided photographs, correspondence, the Jourdain reprint, and biographical information. Mary I. Houston helped me throughout all phases of this study.

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BLACK SCOTER AT INDIAN HEAD, SASKATCHEWAN

FRED W. LAHRMAN, 7 - 3941 Retallack Street, Regina, Saskatchewan, S4S 3C1 and LORNE SCOTT, P.O. Box 995, Indian Head, Saskatchewan. S0G 2K0

On 11 November 1980 while observing waterfowl on Deep Lake, 7 mi. south of Indian Head, Lorne Scott and I saw an all black diving duck fly low over the water and alight about 450 yards away. With the aid of a 20X spotting scope we were able to identify it as a Black Scotter. It was in the all black plumage of the adult male but the yellow knob at the base of the bill, while clearly evident, did not have the full brilliant yellow of the male which was seen on Wascana Lake.[2] On the following day I saw the bird again in the same area but at much closer range. I believe that this is the first record of the species for the Qu'Appelle area covered by "Birds of the Qu'Appelle 1857-1979."[1]

Other birds observed on the lake at this late date were 125 Whistling Swan, 300 Canada Goose, 3 White-fronted Goose, 2 Lesser Snow Goose, 1 Black Duck, 25 Northern Shoveler, 1 Redhead, 1 Canvasback, 100+ Lesser Scaup, 75 Common Goldeneye, 50 Bufflehead, 1 White-winged Scoter, 28 Hooded Merganser and 10 Common Merganser. Other late dates were 1 Turkey Vulture 3 November and 100 Sandhill Crane 15 November observed near Indian Head by Lorne Scott. On 23 November he also saw 2 Lesser Snow and 3 White-fronted Geese at Deep Lake.

[1]CALLIN, E. M. 1980. Birds of the Qu'Appelle, 1857-1979. Sask. Nat. Hist. Soc. Spec. Publ. 13, Regina, Saskatchewan.

[2]KREBA, R. 1980. A black day at Wascana Marsh, Regina. Blue Jay 38(2):120-121.

HISTORIC NEST RECORDS OF THE PEREGRINE FALCON IN SOUTHERN SASKATCHEWAN AND SOUTHERN MANITOBA

MARC J. BECHARD, Department of Biology, University of La Verne, La Verne, California. 91750

The historic breeding range of the Peregrine Falcon east of the Rocky Mountains extended north through much of Montana and Alberta.[3 5 11] There is only presumptive evidence that peregrines once occupied suitable sites along Hudson Bay near Churchill,[2 7] but otherwise range descriptions have not included Saskatchewan and Manitoba. This note provides evidence for nest sites in the southern portions of both provinces, extending the historic breeding range.

Thompson in 1891 described the peregrine as an occasional summer resident near Winnipeg, and listed migration records for Portage la Prairie, Carberry and Two Rivers in Manitoba, and from Cote's Reserve in what is now Saskatchewan.[12] Similarly, Mitchell in 1924 knew of only one peregrine specimen from Saskatchewan, obtained at Old Wives Lake on 2 May 1922, but knew of no evidence of nesting within the province.[8]

Recent studies indicate that the Peregrine Falcon no longer breeds in Saskatchewan or Manitoba.[2 3] Godfrey,[4] Houston and Street,[6] and Nero,[9 10] all failed to find any evidence of peregrine nests in the Cypress Hills, Saskatchewan River, Lake Athabasca, or northeastern regions of Saskatchewan, although occasional cliff ledges are available in all of these areas. Jehl and Smith[7] knew of no documented nesting sites for the Churchill area of Manitoba, but reported a courting pair near Cape Merry as late as 1957.

While searching the egg collection of the Western Foundation of Vertebrate Zoology, Los Angeles, California, for historic records of raptor nest sites, I discovered two previously unpublished records of the Peregrine Falcon from southern Manitoba and southern Saskatchewan, prior to the 1920's. O. G. Turner, Jr., collected two eggs on 20 May 1887 from a nest situated 13.3 m above ground on the ledge of a small cliff near Gladstone, Manitoba. J. E. Bowman made a collecting trip on 6 May 1916 to Battle Creek in the Cypress Hills of extreme southwestern Saskatchewan, where he found a nest with four eggs on the shelf of a 13 m cliff, approximately 1.2 m from the top. Since Prairie Falcons still nest on cliff ledges in the Cypress Hills, although not known to do so in Manitoba, nest site information was not sufficient to confirm the validity of the collectors' identifications. Egg size could not be used for identification since eggs of Peregrine Falcons are similar to those of Prairie Falcons.[1] The dark red color of both sets I am reporting, however, is typical of Peregrine Falcons, so I judge the identifications to be valid in each instance.

The two nests reported herein are apparently the only documented nests from southern Manitoba and the entire province of Saskatchewan. They indicate that at the time of initia settlement, the Peregrine Falcon was at least a rare breeding resident of southern Manitoba and southern Saskatchewan.

Acknowledgements

I would like to thank C. S. Houston for suggesting this study. Thanks are also extended to Lloyd F. Kiff for use of the records of the Western Foundation of Vertebrate Zoology.

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[2] CADE, T. J. and R. W. FYFE. 1970. The North American peregrine survey, 1970. Can. Field-Nat. 84:231-245.

[3] FYFE, R. W., TEMPLE, S. A., and T. J. CADE. 1976. The 1975 North American Peregrine Falcon survey. Can. Field-Nat. 90:228-273.

[4] GODFREY, W. E. 1950. Birds of the Cypress Hills and Flotten Lake Regions, Saskatchewan. Ottawa: Nat. Mus. Canada Bull. 120.

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[12] THOMPSON, E. E. 1891. The birds of Manitoba. Proc. U.S. Nat. Museum 13:457-643.

A BREEDING RECORD FOR ORCHARD ORIOLES IN SASKATCHEWAN

BRENDA DALE, 3629 18th Avenue,
Regina, Saskatchewan. S4S 0C1

The first Saskatchewan record of breeding Orchard Orioles was a pair at Fort San in 1971.[1] Several pairs of Orchard Orioles were seen in Saskatchewan in 1980. Gollop[2] reported pairs near Moose Jaw and Oxbow. Shadick and Luterbach[3] documented nests and young for Orchard Orioles at Buffalo Pound Lake and Saskatoon. All the 1980 males were in first year plumage.

On 15 June 1981 a pair of Orchard Orioles was seen at the north end of Last Mountain Lake (11½ miles east of Simpson). The male was in mature plumage. On subsequent visits the male was heard singing (20 June), the female was seen sitting on a nest 4-5 m above the ground (25 June) and the pair was seen feeding 3 young in the nest (18-22 July). By 23 July the young were out of the nest. Two of the young were seen on 25 July.

[1] CALLIN, E. M. 1975. First records of the Orchard Oriole in Saskatchewan. Blue Jay 33:176-177.

[2] GOLLOP, J. B. 1980. Prairie Provinces Region. Am.Birds 34:905-906.

[3] SHADICK, S. J. and BOB LUTERBACH. 1980. Saskatchewan breeding records for Red Crossbill, Orchard Oriole and Red-headed Woodpecker. Blue Jay 38:247-249.

UNUSUAL WINTER BIRD RECORDS FROM SOMME, SASKATCHEWAN

DONALD HOOPER, P.O. Box 40,
Somme, Saskatchewan. S0E 1N0

On 30 March 1980 I was called to visit Stan Back's bird feeder at Carragana to identify a strange bird that was feeding on sunflower seeds with a large flock of Evening Grosbeaks. It was a large sparrow with a stout, pink bill, a mottled black and white throat, and streaked sides. I hadn't seen a plumage quite like it before, but after a check with Robbins, Bruun and Zim's *Birds of North America* I realized that a pink-billed sparrow with streaked sides could only be a Harris' Sparrow. It was in its first winter plumage, changing from a white throat to a black throat. By the time it left on 12 April its throat was even blacker. Stan reported that this individual had been present since mid-February, our first winter record for the Somme area.

Our earliest spring date for the Harris Sparrow at Somme is 30 April (1959) and the latest spring departure 4 June (1954). When the males arrive, their throats are always black.

In the winter of 1971-72 a Western Meadowlark stayed with a herd of cattle north of Somme and was seen until the end of March. It slept in a hole in a bale stack.

While logging south of Dillabough in January 1955, I saw a White-throated Sparrow feeding with the chickadees at The Pas Lumber Company's garbage dump. It was very tame and was observed at close range from 22 to 31 January, when we moved the camp.

A Song Sparrow stayed around our farmyard 2 mi. east and 3 mi. north of Somme, from 21 December 1953 through 1 January 1954.

A rare visitor, a Clark's Nutcracker, came to David Black's feeder, 4.5 mi. north of Somme on 21 October 1979.

We also have an occasional Starling, Horned Lark, and Dark-eyed Junco that loses all urge to migrate and braves the winter cold, but such events are less noteworthy.

TWO EARLY SASKATCHEWAN GREAT GRAY OWL RECORDS

LINDSAY WOTHERSPOON, P.O. Box
13-36, Swan River, Manitoba. P0L 1Z0

In 1932 or 1933 four or five of us young blokes were on the way from Hyas, Saskatchewan to Peepaw Lake for some ice fishing, travelling by sleigh and team. On the way through the Porcupine Forest Reserve south of Peepaw Lake, an owl was seen in the lower branches of a tree. A fellow with a .22 shot at it and missed, and the owl moved about 100 yards farther along the trail. Again he shot and missed. This was repeated three or four times. Finally he spied it almost out of sight to the side of the trail. He shot from the hip without raising the sights. Down went the owl. After taking measurements and comparing it with Taverner's *Birds of Western Canada*, we identified it as a Cinereous or Great Gray Owl.

Since we moved to the Woody River valley along the Saskatchewan-Manitoba boundary, I identified the remains of another owl shot by a Kamsack hunter near here about 1960. It was at dusk of an unlucky day's hunt and he shot it out of a tree with his 30.06.

I don't know why people shoot owls.

RED FOX FAMILIES OVERLOOK FARMYARD POULTRY AS A FOOD SOURCE

LLOYD S. SAUL, P.O. Box 154, Semans, Saskatchewan. S0A 3S0

Throughout my teens, I was led to believe that wild canines were not to be fully trusted where poultry were involved. However, a fox family that lives in our pasture convinced me that wild animals may live harmoniously with man providing the conditions are suitable. I have learned as a science student that if we are going to live in a world of nature, we will have to be as one. In my endeavor to study this interesting trait of the fox family I had to ward off killing the foxes when the first sign of a predator - prey relationshp arose. Killing predators should be the last, not the first, line of attack.[1] However, thoughts of one day waking up and finding all my chickens gone were soon eroded by the foxes' interesting behavior.

An expectant vixen made a den 210 yards away from the farmyard. She gave birth to six pups in late spring 1980, and four pups in 1981. Just about the same time (in both years) I purchased chicks to add to the supply of hens and fryers needed to furnish our egg and meat demands. The unique part of all this was that as the fox families grew and hunted together not once did they hinder or kill one of our fowl. In fact, the foxes seemed totally disinclined to attack our free roaming birds.

At first the potential hazard the foxes imposed left me on edge, but as the summer days wore on their behavior stirred my interest. I wondered what inhibited the foxes from utilizing the poultry as a food source. On one occasion the mother fox placidly strolled through the flock enroute to search for ground squirrels in our pasture. She merely glanced at the nearby chickens as she went by them. This opportunity could have provided her with a free meal, but she passed it by. On another day in late summer 1980, the mother and one pup attempted to capture a magpie sitting on a strawpile. The stalking was a failure as the magpie was warned by its mate and flew away. The foxes lay down on the straw for about 15 minutes looking quite gaunt, while a number of chickens were within jumping distance. A count of the fowl showed the fox was not taking them.

Several other neighbors have commented to me that they have had foxes living close to their farms but received no trouble from them. One neighbor saw a fox lie down in the middle of a flock of chickens. Many reasons may be the cause of this behavior. For example the White-tailed Jack Rabbits have almost reached their cyclic plateau. With this high population of rabbits the foxes' food requirements are probably satisfied. Possibly the mother fox had had a previous encounter with a farmyard situation which may have turned out to be a painful one. If this is not the case, then the foxes' ignorance of chickens as food remains a mystery. Whatever the reasons that granted our pasture with this lovely and friendly wildlife neighbor, I'm most grateful.

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[1] PAGE. R. 1974. Do predators have rights? Blue Jay 32(1):51-54.

OBSERVATIONS OF THE WOODCHUCK IN WEST-CENTRAL SASKATCHEWAN, 1932-1937

By the late R. D. SYMONS

Previous to 1932 I had not personally observed or heard of a Woodchuck or Ground Hog *Marmota monax*, in the farming country about the Battlefords. I had, however, observed them as occurring somewhat sparingly in the evergreen belt as far south as Brightsand Lake and Midnight Lake, and in the Thickwood Hills near Hafford. Farther east, towards Prince Albert, they were quite common.

Since 1930 I have heard of several observations farther south and west than expected. My own records date from 1932; these casual occurrences probably indicate an extension of their range.

It is possible that this gradual range extension has been going on over a number of years since several old-timers in the north say that there are more Woodchucks now (in the 1930's) than there were in earlier decades.

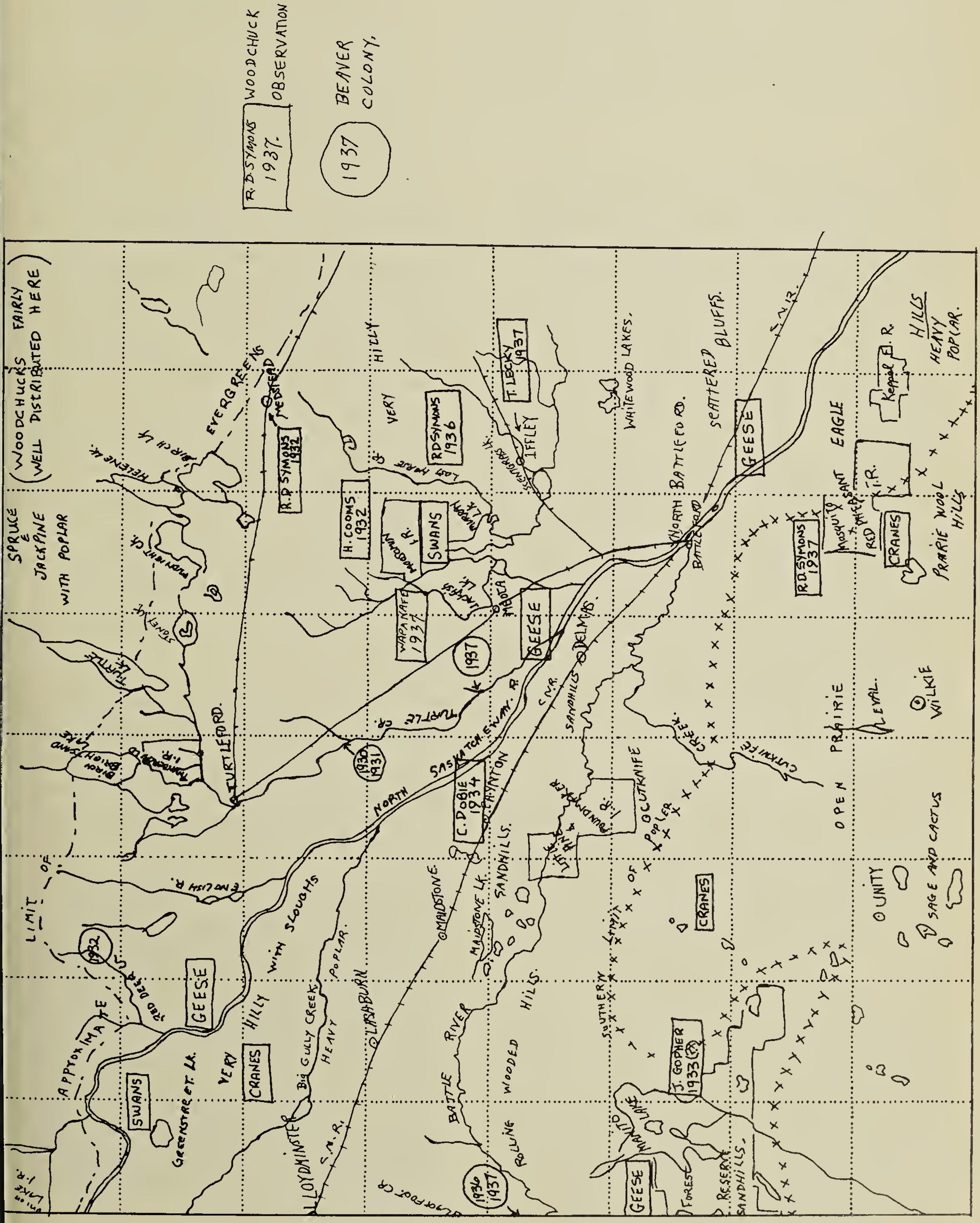
It is not uncommon to find that after naturalists have pretty well established the range of a certain species it unexpectedly crops up in an area outside of this range. This is often followed by others being seen in the same district, thus upsetting previous calculations. This indicates a great deal of elasticity in the choice of abode. We have yet to learn whether in such cases a species is extending its range, or only re-

Woodchuck. *R. E. Gehlert*

occupying areas previously abandoned for some unknown reason. Cases in point for district birds are as follows:

1935: Large numbers of Lark Buntings were seen throughout the Battleford area, where such birds were totally unknown before. One pair nested at Meota, well into the parkland country.

1934: Sprague's Pipit and Bartramian Sandpiper (Upland Sandpiper) noted as breeding in open space in northern coniferous forest north of Midnight Lake.



Map of area abridged from Symon's report.

1930 and 1936: Burrowing Owl noted as nesting near Cutknife. Whip-poor-will observed several evenings in succession at Nelson's farm at Battleford. Only the single bird noted.

With the exception of the pipit and the sandpiper, and possibly the Burrowing Owl, all of which appear to be showing a definite northward trend, the other observations appear to represent erratic shifts, perhaps related to drought conditions. No Lark Buntings have been seen anywhere in the area except in 1935.

But to return to the woodchucks. I cannot do better than to list these observations from year to year as follows:

1932: H. Coons showed me the skin of an animal he had trapped that spring south of Robin Hood, which he thought was a young Badger, but was that of a Woodchuck. The same spring I observed a Woodchuck on the roadside near Medstead, and saw a few skins in Hallas and Sons' store there, which had been brought in by the Birch Lake Indians.

1933: In passing an Indian camp near Manito Lake near Neilburg, I saw three skins drying by the tent. The skins were not yet dry and were probably taken locally, although the Indian, Jim Gopher, had been at Onion Lake a week or so before.

1934: While passing through Paynton in July I saw several men looking at a dead animal on the sidewalk. It had been shot by C. Dobie in his farmyard five miles north of Paynton. None of the men had recognized it as a Woodchuck until I told them.

1935: Several Indians from Moosomin reservation near Meota told me that they had seen and trapped these animals that year. I was shown two skins.

1936: I ran over a Woodchuck on the road near Hillside post office, three miles south and four miles west of Sandwith. There were several other reports between Turtleford and North Battleford.

1937: Old Wapanase, a Saulteaux Indian living at Jackfish Lake, trapped, skinned and ate a Woodchuck, and thought the matter of sufficient interest to tell me. T. Lecky, a farmer at Iffley, found a den with young on his farm and took photographs. I saw these personally. In August while patrolling on Highway 4, 13 miles south of Battleford, I stopped the car to observe a Woodchuck on the roadside. I was able to approach within a few yards before it went into its burrow. Throughout the year, various people have told me of an animal like a Badger, only smaller, near their farm buildings.

In support of the theory that these animals really are quite new to these farming districts, let me add that it was quite unfamiliar to Mr. Dobie and Mr. Lecky. Both had been farming here for upward of 30 years, and both are well educated men interested in wildlife.

Possibly the virtual disappearance of the Badger in these parts since 1931 may have had something to do with it. It may be that the Woodchucks are now venturing to leave their northern home, moving south into more open country with comparative safety. Some Woodchucks are evidently stopping to breed.

NOTE: The above account has been abridged from a report from Robert D Symons, then a Field Officer with the Saskatchewan Department of Natura Resources at Meota, Saskatchewan, to Fred A. Dunk, Director of the Provincia Museum, Regina. It was dated 2 September 1937.

Dr. Fred G. Bard kindly asked Fred W. Lahrman to loan this item to me because of its possible historical interest, along with a collection of letter from Laurence B. Potter and a list of bird specimens collected by Charles F Holmes. I felt the account of th Woodchuck was well worth sharing. – *C. Stuart Houston*, 863 University Drive Saskatoon, Saskatchewan. S7N 0J8

JUNIOR NATURALISTS

OWL BANDING

On 24 May 1981 I was able to go Great Horned Owl banding with Dr. C. Stuart Houston and his helpers, Shaun, Nigel, and Kim. I, thanks to the help of Mr. Peter Boychuk (our Science teacher), organized this year's Crystal Springs owl banding trip; it was our best year ever. Dixon Lake School's Grade 5 and 6 students found these nests: Kent Olchowy - nest with 3 young; Kirk Dunlop - nest with 2 young; Joanne Perillat - nest with 2 young; Donna LaRoche - nest with 2 young and an egg; John Alexanderson - nest with 2 young; Trevor Lysitza - nest with 3 young; and Rolf Krohn - nest with 3 young. Mr. Boychuk also found a nest with 3 young for a total of 18 young owls. I had fun and hope to go again in following years. For those who have never found an owl nest or have never seen banding done, go looking for I'm sure you'll find it as fun and rewarding as I did. — *Judy MacLeod*, (Grade 6, age 11), Dixon Lake School, Crystal Springs, Saskatchewan. S0K 1A0

oung Great Horned Owls in nest box.
G. W. Seib

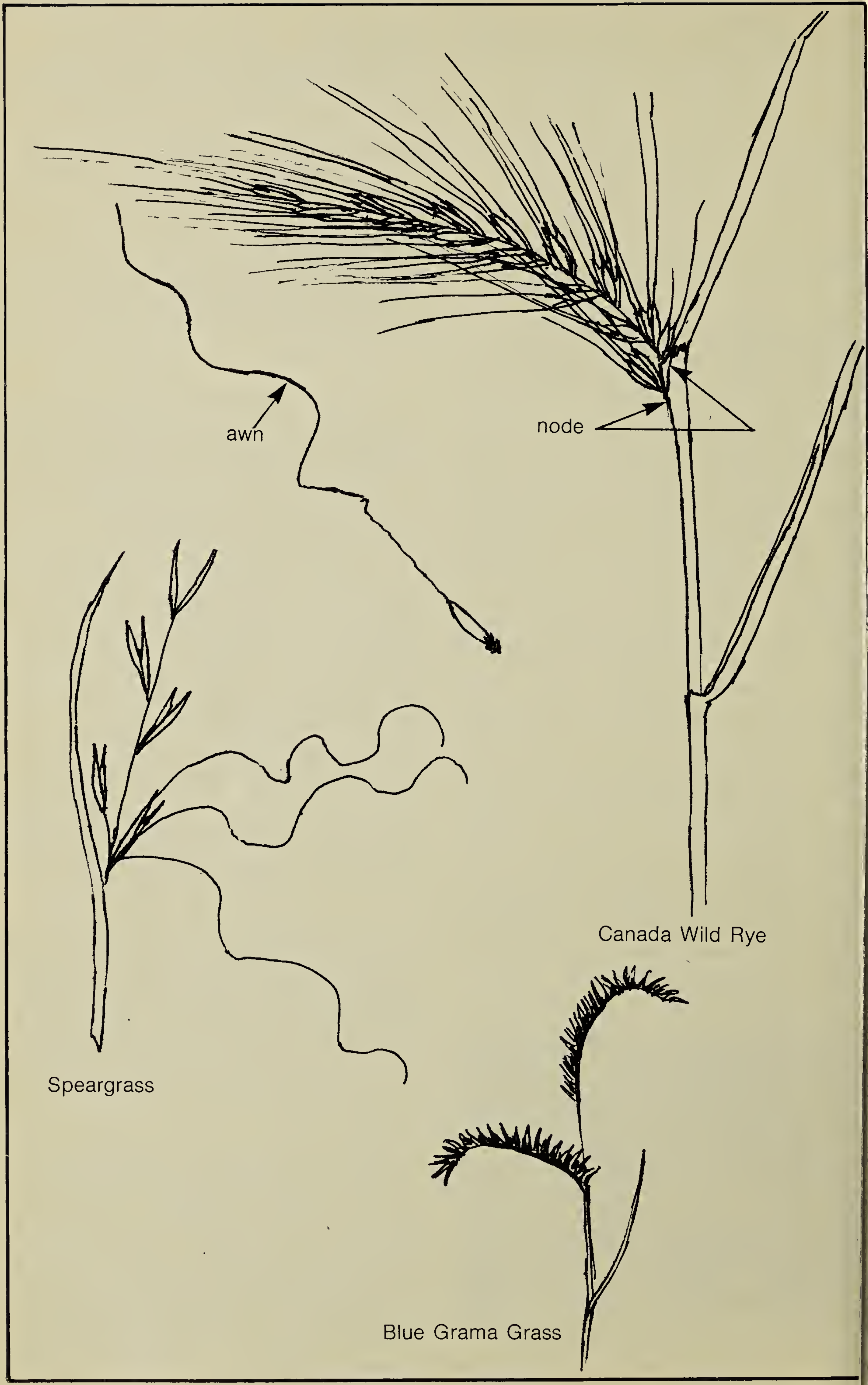
COMMON SASKATCHEWAN GRASSES

In this issue of the *Blue Jay* we have something important to celebrate: the Federal and Provincial Governments have finally signed the agreement to establish a National Grasslands Park in southwestern Saskatchewan.

I thought that we could celebrate our own way, by learning some of the grasses of Saskatchewan. I chose three favorites, all fairly easy to identify. You can look for these and lots of others, for Saskatchewan has more than 100 different grasses! Compare the shapes of their heads, size, color, etc. You can even draw them, as I did! Do the seeds attach to animal fur, like speargrass? How do you think they disperse? On the practical side, they make a nice addition to dry flower arrangements.

You will have the best chance of finding these grasses on areas of native prairie. Even in intensively cultivated areas some bits of prairie usually remain in cattle pastures, slough edges or along the railway tracks. The seed heads are recognizable so you can look for these grasses all fall.

Notes from juniors are welcome. I hope to get some suggestions for this column which I hope to prepare for each *Blue Jay*, and comments, too . . . grasses certainly are a good subject for the photo contest announced in the May newsletter — *Paule B. Hjertaas*, 919 Cook Crescent, Regina, Saskatchewan. S4X 2L9


awn
node
Canada Wild Rye
Speargrass
Blue Grama Grass

SPEARGRASS or NEEDLEGRASS
Stipa comata

Very common in native prairie and even in such disturbed areas as gravel pits. Like the name indicates, the seeds (Figure 1) are shaped like spears: a pointed head and a long straight shaft. It digs into your clothes and is kept in place by the stiff hair near the tip. The "tail" or awn of the seed coils as it dries. If it only bends, the plant you are looking at might be the rarer Porcupine Grass, *Stipa spartea*.

CANADA or NODDING WILD RYE
Elymus canadensis

Lots of leaves at the base and useful as a soil binder, thus preventing erosion. Easy to find as it grows along roads and riverbanks, as well as in sandy soil. It has long awns and two or three small spikes (flower clusters with flowers directly attached to the stalk) attached together at every node.

BLUE GRAMA GRASS
Bouteloua gracilis

With its unmistakable sickle shape, it comes to us from the south and is most abundant in short-grass prairie. That is why it is found on dryer south-facing slopes of valleys and not on the north-facing ones. It can grow to 16 inches tall and is resistant to grazing (and, I suppose, mowing too) and trampling. Maybe I could replace a little piece of my lawn with it . . .

EDITOR'S NOTE: A good book which should be in most school libraries and be of help to students in identifying grasses (and other plants, too) is *Budd's Flora* by J. Looman and K. Best or the older version of this book called *Wild Plants of the Canadian Prairies* by A. C. Budd, both published by the Canada Dept. of Agriculture. Both books use very little technical language and are relatively easy to use and contain some illustrations of plants.

Grasslands National Park near Val Marie.

Gary W. Seib

LETTERS

SANDHILL CRANES NEAR BEAVERHILL LAKE, ALBERTA

I have recently made a sighting of migrating sandhill cranes that may be of interest.

On 26 April 1981 while at N 53° 27' and W 112° 42' (between Beaverhill and Cooking Lakes) I observed a large wave of migrating sandhill cranes. The initial wave was arriving from the south, circled down several hundred feet from out of the clouds and continued migrating in a north northwest direction. I counted 19,000 birds in this initial wave between 1515 and 1600 h but it is likely that I missed some flocks. Between 1515 and 1530 three flocks totalling 600 birds passed, and then for the period 1530 to 1600 h, flocks flew over me almost continuously at an estimated altitude of approximately 1000 ft. Flock sizes varied from 15 to 2000 birds but if my memory was accurate most of the birds were in flocks of 500-800 birds which made the counting relatively easy. After a period of about a half an hour during which I heard 5 or 6 flocks calling from above the clouds, I heard another wave passing between approximately 1630 and 1700 h. These birds stayed above the clouds so that I could not see them but the noise and duration of the flight seemed to suggest numbers of birds similar to the first flight.

I would be interested in knowing of any similar flights through Alberta during the spring. — *William R. Koski*, LGL Limited, 10110 - 124th Street, Edmonton, Alberta. T5N 1P6

BAT LEGEND

From time to time interesting old country legends about animals are heard. These are rarely written down and so are lost to the history of science.

My mother has recently recounted a story about bats. She heard the story from her grandmother before World War I at Sifton, Manitoba. Grandmother Zabinski came from an area of the Ukraine for a while dominated by the Austro-Hungarian Empire which collapsed in 1918.

The belief is that bats come from mice. In country places a bat is called a flying mouse. In order for a mouse to develop into a bat, it must live for seven years without hearing the sound of a church bell. The comparative rarity of bats is explained by the fact that mice are short lived naturally. The presence of cats would thus tend indirectly to diminish the number of bats. The one helps explain the other. However, the event is so rare that it has never been witnessed.

It is rather curious as to the path taken in the evolution of legend. It seems to begin with observation, tends to comparison and finally flounders due to the lack of a fact or two. But it is self saving in that it leaves the door open for ultimate verification. In this case, it is implied that someone may in the future actually witness the event of a mouse changing into a bat. — *Walter Krivda*, P.O. Box 864, The Pas, Manitoba. R9A 1K8

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